# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 612.—Vol. XVII. LONDON, SATURDAY, MAY 15, 1847. [Price 6d.


**SPARE MINE MATERIALS—HARROWBARROW OLD MINE, CALSTOCK.**—TO BE SOLD, BY PUBLIC AUCTION, on Monday, the 17th May, 1847, by GEORGE CARNE, at the HARROWBARROW OLD MINE, in the parish of CALSTOCK, a quantity of SPARE MINE MATERIALS, comprising—

About 30 fathoms of 7 and 8-inch pumps, windbores, working and clackdoor pieces, plunger poles and cases, railway iron and saddles, 2 whims, pulleys, &c.; blacksmiths' tools, anvils, large vice, bellows, complete set of screws and taps, pair sheer pulleys, carpenter's bench, &c.

The whole of the above are in excellent condition, and may be viewed the Saturday before the sale.

Further particulars may be obtained of Capt. Cooke, on the mine; Capt. John Paul, at Tavistock; or of the auctioneer, 20, George-street, Plymouth.

*The Sale will commence at One o'clock in the afternoon precisely.*

Dated the Auction Mart, 20, George-street, Plymouth, May 1, 1847. 1

**CROMFORD CANAL SHARES.**—TO BE SOLD, BY AUCTION, by Messrs. PEET & SON, on Tuesday, the 18th day of May inst., at George the Fourth Hotel, Nottingham, at Twelve o'clock precisely (by order of the executor of the late Mrs. Elizabeth Horton), FIFTEEN SHARES in the CROMFORD CANAL COMPANY, in lots of three shares each.

Under Acts of Parliament, obtained last session, the canal and works have been purchased by the Manchester, Buxton, Matlock, and Midland Junction Railway Company, under circumstances which will render the purchase of these shares a very desirable investment.—For particulars apply to Mr. J. W. Sloper, solicitor, 6, Vernon-place, Bloomsbury-square, London; or of Messrs. Peet and Son, auctioneers, Nottingham. 2

MINING MATERIALS FOR SALE.

**MR. GEORGE SEALY** is instructed to OFFER FOR SALE, BY AUCTION, on Tuesday, the 25th inst., at WHEAL VIRGIN, in the parish of ST. HILLARY, the following valuable

MINING MATERIALS—viz.: 3

1 60-inch cylinder STEAM-ENGINE, 10-feet stroke in the cylinder, and 9-feet in the shaft, with steam case and three boilers, weighing 30 tons.
1 19-inch cylinder STEAM WHIM-ENGINE, with boiler, cast-iron cage, &c., complete.
CRUSHING APPARATUS, consisting of cast-iron chairs, rolls, arbours, brasses, wood frame-work, &c., complete.
24 9-feet 14-inch PUMPS; 17 9-feet 13-inch ditto; 1 9-feet 12-inch ditto; 18 9-feet 11-inch ditto; 12 9-feet 10-inch ditto; 7 9-feet 9-inch ditto; 10 9-feet 8-inch ditto, and 6 9-feet 6-inch ditto.
2 11-feet 14-inch PLUNGER POLES; 1 9-feet 13-inch ditto; 1 11½-feet 10-inch ditto; 1 9-feet 6-inch ditto; and 1 11-feet 5½-inch ditto, with pole-cases, stuffing-boxes, and glands; H and top-doorpieces, clackseats, and windbores, to match each pole.
1 7-feet 9-inch windbore; 1 9-inch clack-doorpiece; 1 10-inch top-doorpiece.
60 fathoms 12-inch Memel rods, with faggotted strapping-plates and pins to match.
Several tons common iron strapping-plates, and pins to fit; 8 and 9-inch wood rods.
Large quantity of staples and glands, of various sizes; large capstan and shears.
2 Balance-bobs, and 2 angle ditto.
Several tons railroad iron and saddles, railroad waggons, large quantity of wrought and cast-iron, about 4 tons chain, smith's bellows and anvil, old brass, and a great variety of other articles.

The attention of parties engaged in the working of mines is earnestly requested to the foregoing announcement, as the whole of the materials will be found to be in excellent condition; and the proximity of Wheal Virgin to the ports of Hayle and Marazion will enable purchasers who may want to remove the articles from the neighbourhood to do so at a very moderate expense.

*The Sale will commence precisely at Eleven o'clock.*

Dated Wheal Virgin, near Goldsithney, May 4, 1847.

**ON SALE—COLLIERIES, near BISHOP AUCKLAND,** in the county of DURHAM.—TO BE SOLD BY PRIVATE CONTRACT, the UNEXPIRED TERM, held by the present lessees, in the GORDON and EVENWOOD COLLIERIES. The above collieries are now in work, and are so situated as to command a considerable export, as well as land sale, trade. These advantages will be materially increased by the formation of the Auckland Branch of the York and Newcastle Railway, and the new railways leading to the south and west—for all of which Acts are obtained. By the first, great facilities will be obtained for shipments on the Tyne and Wear.

For further particulars apply to Mr. Brogden, Stockton-on-Tees. 4

**LARGE PUMPING-ENGINE.**—TO BE SOLD, BY PRIVATE CONTRACT, at GODOLPHIN MINES, Helston, Cornwall, one 80-inch pumping-engine, 10 feet stroke in the cylinder, and 8 feet in the shaft, with three tubular boilers of about 35 tons, a balance-bob and top-piece of rod to each. This excellent engine was erected by one of the first engineers in the county; the air-pumps are lined with brass, and the whole of the machinery possesses great strength and durability. It has done a "duty" equal to the first in Cornwall, and is well worth the attention of any gentleman or company requiring such a powerful machine. The engine will be sold with or without the boilers, balance-bobs, &c., as may best suit the purchasers.

Application to be made to Capt. R. Williams, on the mines.

Dated Godolphin Mines, Helston, Cornwall, February 25, 1846. 5

**TO LET, A VALUABLE COLLIERY,** and a FIELD OF BLACK and CLAY-BAND IRONSTONE, on the Estate of PRESTONGRANGE, near the village of Prestonpans, situated about eight miles from Edinburgh, and intersected by the line of the North British Railway.

The COAL and IRONSTONE are in the same field, and a shaft has been sunk, which reaches the ironstone at a depth of 36 fathoms from the surface, and the coal at a depth of 38 fathoms.

The BLACK-BAND IRONSTONE is about 20 inches thick, with 4 inches of Parrot Coal, and 8 inches of Clay-band Ironstone—forming in all, with some shale interposed, a seam of about 4 feet thick. According to an analysis, by Professor Johnston, the black-band contains about 27 to 33 per cent. of metallic iron, and the clay-band about 36 per cent. On application, specimens of the stone, raw or calcined, will be sent to inquirers.

The seam of coal is about 4 feet thick, and about 50 tons of coal are now raised daily.

There are rails laid from the mouth of the shaft to a siding on the North British Railway, and there is a safe and commodious shipping harbour belonging to the proprietor, at the distance of three quarters of a mile from the pit.

Application may be made to the proprietor, Sir George Grant Suttie, Prestongrange, by Prestonpans. The house of Prestongrange and the works are both within a mile of the Transent Station on the North British Railway.

**TO BE LET, the PARK-HILL MINES, DEAN FOREST,** GLOUCESTERSHIRE—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS of rich IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post-paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire. 6

**WHEAL BEAM TIN MINE, DEVON.**—CONDUCTED ON THE COST-BOOK SYSTEM.

This promising mine (now in 116 shares), to be divided into 1770 shares, at 6*l.* per share, extends over about 700 acres, and joins the western end of the well-known United Ashburton Consols Mine. It is in full course of work, and making regular returns of tin—upwards of 5000*l.* value of which has been disposed of. The present proprietors, being only four in number, are anxious to work the mine in a more effectual manner, and upon a more extended scale, having hitherto confined the operations to only one lode; they, consequently, offer one-half of their interest to the public as above.

For prospectuses and shares apply to Crossman, Sommers, and Co., agents, Mining Adventurers' Subscription Room, and Sole Registry Office for the Sale and Purchase of Mining Shares, 28, Threadneedle-street, London. 7

**BRUNTON'S PATENT ORE-DRESSING FRAME.**—These FRAMES, for DRESSING TIN, COPPER, and OTHER MINERALS, having been in use, and given satisfaction, on several mines, during the last two years, the PATENTEE begs to call the attention of all Adventurers and Mine Agents to the great advantages, both as regards economy of labour and the great increase of mineral obtained by their adoption. The following gentlemen can certify as to their utility:—Thos. Bolitho and Sons; P. N. Johnson, Esq.; Capt. Jos. Vivian, Cook's Kitchen Mine; Capt. R. Kernick, St. Ives Consols; Capt. R. Edwards, Wheal Franco; Capt. W. Teague, Wheal Grey; Capt. James Miners, and Capt. Matthew Rogers, Carn Brea Mines. 8

**STEAM COAL—WITHOUT SMOKE,** as per experiments made at her Majesty's Dockyard, Woolwich.

CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.)

*OFFICES—9, MOORGATE-STREET, LONDON.* 10

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 19, 1846.

**SMITH AND ENGLISH** (late ANDREW SMITH), PRINCES-STREET, LEICESTER-SQUARE, LONDON,

*ENGINEERS, MACHINISTS, IRON AND BRASS FOUNDERS, &c.,*

PATENTEES and MANUFACTURERS of Improved Steam-engines, Rapid Steam Generators, Railway Wheels, Rails and Chairs, Propellers for Canal and River Navigation ROPE-MAKING, FLAX-DRESSING, AND OTHER MACHINERY,

Raising and Lowering Machines, Wharf, Warehouse, and Truck Cranes, Tramway, Traversing and Stationary Purchase Crabs, Tackle, &c.—Also, Steam-engines and Boilers, of various constructions; Bone, Sugar, and Mill Work, and Machinery of every description manufactured and repaired; Saw-mills, Breweries, and Factories attended.

Planing, Boring, Turning, Screw-cutting, &c. 11

TO RAILWAY AND ELECTRIC TELEGRAPH COMPANIES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**REID'S PATENT PREPARED WIRE FOR ELECTRIC TELEGRAPHS, WIRE ROPE, AND FENCING.** 12

The ADVANTAGES attending this WIRE are—

1. That it may be had of any length.—2. That it is of uniform size, and, when annealed, is of one uniform degree of softness.—3. That it is prepared for being galvanised by a process which leaves it wholly uninjured.

Hitherto it has been the practice, in cleaning wire to prepare it for the galvanising process, to immerse it in sulphuric, or nitric, acid, by means of which the wire has been much injured in its structure, from the acid not acting equally on all parts alike. By the new process this evil is entirely obviated, and the zinc coating is found to be more perfect.

For further particulars apply to the patentee, at 35, University-street, London, where specimens may be seen, and all orders will receive immediate attention.

CONTRACTS entered into and executed with promptitude.

TO MINE AND COLLIERY PROPRIETORS, SLATE QUARRY OWNERS, RAILWAY CONTRACTORS, IRONMONGERS, DEALERS IN GUNPOWDER, AND OTHERS.

**MESSRS. JOHN HALL & SON,** the PATENTEES AND SOLE MANUFACTURERS OF

**SCHÖNBEIN'S PATENT GUN-COTTON,** 13

Respectfully state, that they are now prepared to SUPPLY the PATENT GUN-COTTON (compressed for the convenience of carriage), in round and square paper cases, of 4 ozs. each, packed in boxes, containing 50 and 100 cases each, at the price of 3*s.* per lb., for ready money.

Also, in tubes or cartridges of... 1, 1¼, 1½, and 1¾-inch diameter;
Containing..... 2, 4, 6, and 8 ounces each, at the
Additional charge of ..... 1, 1½, 2, and 2½ pence, each tube or cartridge.

For blasting in slate quarries, paper tubes will be supplied, 3 ft. in length, containing 1 oz. of the Patent Gun-Cotton per foot.

4 Ounces of Gun-Cotton } equal in power to { 24 Ounces of Blasting Gunpowder,

As proved in mortars, similar to those used by the Board of Ordnance, for the proof of gunpowder.

*OFFICE—23, LOMBARD-STREET, LONDON.*

**INCRUSTATIONS IN BOILERS.**—The ADVERTISER is in possession of a METHOD of entirely PREVENTING the DEPOSITION of INCRUSTING MATTER in BOILERS, whether marine or otherwise; not only is it capable of accomplishing the above, but it also removes deposits already formed. 14

The chief merits of this method are—firstly, it can by no possibility injuriously affect the boiler or machinery, as no corrosive vapour is given off, or any substance employed, capable of acting on any metal; secondly, the expense of the material is almost nominal.

Any party wishing to treat for the above, may address to "A. Z.," care of the Editor, *Mining Journal* Office, 26, Fleet-street, London.

**ELECTRIC TELEGRAPHS.**—As the INVENTORS and PATENTEES of the ELECTRO-TELEGRAPHIC CONVERSER, the principle of which is far more simple, certain, and perfect than any at present known to the world, we feel justified in asking all BRITISH and FOREIGN RAILWAY COMPANIES, as well as the various FOREIGN GOVERNMENTS requiring these important instruments, to PAUSE before they ADOPT any PARTICULAR TELEGRAPH, until our patent arrangements are complete; when an inspection of OUR TELEGRAPH will convince them of its superiority, being perfectly free from vibration, and not liable to derangement by atmospheric or other influences; and may be worked by a single wire, through any number of instruments, on any length of line. BRETT & LITTLE, 15

140, Holborn-bars, London.

**FLEXIBLE HOSE-PIPES** for LOCOMOTIVE ENGINES, RAILWAY CRANES, FIRE-ENGINES, GAS, &c.

PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION.

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c. 16

VULCANISED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK,

Goswell Mews, Goswell-road, London.

**IMPORTANT TO ENGINEERS, MANUFACTURERS,** RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS.

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is— 17

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

**THE PATENT SAFETY FUSE,** FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this.'

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 18

**TO ENGINEERS, RAILWAY CONTRACTORS, MINING** AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public. 19

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

**TO ENGINEERS, BOILER-MAKERS, AND OTHERS.**—LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.

W. H. RICHARDSON, Jun., & CO., DARLASTON, *STAFFORDSHIRE,* 20

MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Roose's recent invention (patented August, 1846).—Address as above.

IMPORTANT TO RAILWAY COMPANIES.

**PATENT KAMPTULICON COMPANY, 18, CORNHILL.**

This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended to be used for the backs and sides of carriages, to prevent splinters when accidents occur.

By order of the board, P. G. GREVILLE, Secretary. 21

PROJECTED RAILWAYS.

**PATENT METALLIC SAND, or ENGLISH POZZOLANO.** GREAT REDUCTION IN PRICE.

Extensively used in mortar and concrete at the great tunnels on the London and Birmingham Railway, in the foundations of the new Houses of Parliament, sea walls on the South Devon Railway, Clifton Reservoirs, and other works of importance. 22

From its chemical qualities, the metallic sand forms, in admixture with lime and common sand, a cement, mortar, or concrete, of flinty hardness, and almost entire incompressibility; and, from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone—requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.—Further information will be given, and specimens shown, on application to Mr. C. K. DYER, 4, New Broad-street, London.

ANALYSIS OF THE PATENT METALLIC SAND.

| | | | |
|---|---|---|---|
| Silica | 49 | Lime | 6 |
| Oxide of iron | 32 | Magnesia | 2 |
| Alumina | 8 | Zinc | 3 |

**WANTED,** to proceed to GERMANY immediately, an intelligent MINING ENGINEER, to SUPERINTEND the OPENING and WORKING of several MINES there. A knowledge of the German language is indispensable—Applications, with testimonials as to character, ability, and terms, to be addressed, post-paid, to "R. G. F.," 50, Threadneedle-street. 23

**SULPHUR.**—TO BE SOLD, RODGERS'S PATENT FOR THE SEPARATION OF SULPHUR FROM MINERAL SUBSTANCES. 24

Apply to Mr. Phillips, 2, Duke-street, Adelphi, London.

**TO IRON AND COAL MASTERS.**—S. B. ROGERS, of NANTYGLO, MONMOUTHSHIRE, respectfully begs to announce to IRON and COAL MASTERS, that he has DISCOVERED some very great IMPROVEMENTS in the CONSTRUCTION of COKE OVENS, whereby a SAVING of full TWENTY PER CENT. may be effected in the conversion of small coal into coke.—The cost of ovens, and other particulars, communicated in reply to pre-paid letters, addressed as above. 25

**TO RAILWAY DIRECTORS, ENGINEERS, &c.**—IRON RAILS, CHAIRS, GIRDERS, COLUMNS, PIPES; also, BEST BAR, ROD, SHEET, PLATE, AND HOOP-IRON, direct from the Works. 26

Apply to T. M. GLADSTONE and CO., No. 7, Birchin-lane, City.

**WILSON & FRASER, 2, WELLINGTON-BUILDINGS,** LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 27

**MR. R. TREDINNICK, MINING AGENT AND DEALER** IN EVERY DESCRIPTION OF SHARES. 28

*THREE KING'S COURT, LOMBARD-STREET, LONDON.*

**THOMAS P. THOMAS, MINE AGENT, AND DEALER** IN RAILWAY AND OTHER SHARES. 29

18, *THREADNEEDLE-STREET, LONDON.*

*MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.*

**WATSON AND CUELL, MINE AGENTS.**—N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain. 30

**WILLIAM H. SMITH, MINING SHARE AGENT,** 10, *WARNFORD-COURT, THROGMORTON-STREET,* has SHARES FOR SALE in the following MINES—viz.:

| | |
|---|---|
| WHEAL LOUISA, | ALBERT CONSOLS, |
| WHEAL BLENCOWE, | WEST SHEPHERD, |
| WHEAL MARY PENTUAN, | VICTORIA TIN MINING COMPANY. |

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*** Every information will be afforded on application.

**JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND** SHAREBROKER, 32

*MATTHEW-STREET, TAVISTOCK.*

Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

**JAMES LANE, MINING SHARE DEALER,** 33

75, *OLD BROAD-STREET, LONDON.*

**MESSRS. WINSTANLY AND CO., SHAREBROKERS,** inform their friends and the public, they BUY and SELL every description of RAILWAY SHARES on the most advantageous terms; they also make advances upon the deposit of scrip and shares for periods as may be agreed. 34

6, Bank Chambers, City.

**MINING ADVENTURERS' SUBSCRIPTION ROOM:** ORIGINAL REGISTRY OFFICE FOR THE SALE AND PURCHASE OF MINING SHARES.

CROSSMAN, SOMMERS, AND CO., AGENTS,

28, *THREADNEEDLE-STREET LONDON.*

SHARES FOR DISPOSAL. 35

| | |
|---|---|
| Birch Tor and Vitifer Tin Mine | Exmoor Wheal Eliza |
| West Wheal Providence | South Wheal Maria |
| Wheal Tremayne Copper Mine | Wheal Susan |
| Great Wheal Frederick Tin Mine | Holmbush |
| Devon and Courtenay Consols | Wheal Rose Consols |
| North Eastern Mining Co. of Ireland | Wheal Beam Tin Mine |

A FEW FORFEITED SHARES IN SOUTH FRIENDSHIP WHEAL ANN, by order of the purser, &c. &c.

**ASTURIAN MINING COMPANY.**—Notice is hereby given, that all SHARES upon which the CALL, made on the 6th March last, and due on the 6th April, is NOT PAID, on or before the 1st June, will be declared FORFEITED, and the numbers published. By order of the board, 36

9, Austinfriars, May 7, 1847. K. MACKENZIE, Secretary.

**EAST COOMBE MINING COMPANY.**—Notice is hereby given, that a SPECIAL GENERAL MEETING of the adventurers will be HELD on the above mine, pursuant to circular, dated the 13th of May, 1847, for the several purposes therein referred to—such being to receive the accounts, and audit the same, as also a report on the state of the mine, and to consider the course to be henceforth adopted. 37

Swymbridge, near Barnstaple, May 13, 1847. GEO. CHOWEN, Purser.

**NATIONAL BRAZILIAN MINING ASSOCIATION.**—Notice is hereby given, that the SECOND INSTALMENT of ONE POUND per share, on the marked shares of this association, will be PAYABLE at the offices on Tuesday next, the 18th inst.—26, Throgmorton-street, May 13, 1847. 38

**WHEAL CURTIS COPPER MINING COMPANY.**—A FEW SHARES FOR SALE, in the above company, at FIFTEEN SHILLINGS per SHARE—£1 10*s.* paid.—Address (by letter) to "W. W.," Post-office, Marlborough-road, Chelsea. 39

**TAVY CONSOLS MINE.**—TO IRONFOUNDERS, ENGINEERS, AND OTHERS.—TENDERS will be RECEIVED by the PURSER, on or before Friday, the 21st of May, 1847, for the ERECTION of a GRINDING and STAMPING MACHINE, to be attached to the great water wheel, according to plans and specifications.—For further information, apply at the offices of Capt. Paull, Tavistock; Capt. Martin, on the mine; Josiah Sims, engineer, Tavistock; or of Mr. Ponsford Fisher, of Plymouth, the purser; at either of the two latter offices, plans and specifications may be seen, and further information obtained.

N.B.—The committee do not pledge themselves to accept the lowest tender. 40

Plymouth, May 10, 1847. PONSFORD FISHER, Purser.

**TO MINING ADVENTURERS.**—DESIRABLE MINING PROPERTY IN MERIONETHSHIRE, NORTH WALES.—TO BE DISPOSED OF, ENTIRE or LET, for a term of years, all that valuable property, known by the name of MAES-Y-CLADD, containing, by admeasurement, 146 *a.* 2 *r.* 14 *p.*, or thereabouts, with the minerals under the same. A lode of the purest copper has just been discovered, which, if worked, would make an immense return. The public may rest assured this is no puffing—as an inspection (which is particularly desired) would induce the most timid to purchase; it is solely owing to pecuniary difficulties that the present owner now offers it for disposal. It may be well to add, that the distance from a shipping quay is only a mile and a half.—For terms, and further information, apply to Mr. C. Lewis, mine agent, Barmouth, who will show the property. 41

**GEORGIA TIN MINES,** divided into 2048 shares, and worked *ON THE COST-BOOK SYSTEM.*

The necessary arrangements having been made for carrying out the operations of the company, all future communications are requested to be addressed to the offices of the company, 21, THROGMORTON-STREET, LONDON, where the specimens and plans, with the correspondence, may be seen. 42

**NORTH WALES MINING COMPANY,** COUNTY OF MERIONETH.

Divided into 12,500 shares, limited to £10 each, and carried out upon the Cost-book System, with a deposit of £3 10*s.* per share.

*OFFICES, No. 2, NEW BROAD-STREET, LONDON.* 43

Applications for shares and prospectuses to be made at the office.

W. T. GRIFFITHS, Purser.

**ASSAYING AND ANALYSIS.**—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 44

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

**PATENT GALVANISED IRON and WIRE ROPE WORKS,** *MILLWALL, POPLAR.*

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.—Mr. I. I. Tregellas, Truro, agent for Cornwall. 45

# Transactions of Scientific Bodies.

*MEETINGS DURING THE ENSUING WEEK.*

| Society. | Address. | Day. | Hour. |
|---|---|---|---|
| Western Scientific Institut. | Leicester-square | Monday | 8½ P.M. |
| Statistical | 12, St. James's-square | Monday | 8 P.M. |
| British Architects | 16, Grosvenor-street | Monday | 8 P.M. |
| Chemical | Society of Arts, Adelphi | Monday | 8 P.M. |
| Medical | Bolt-court, Fleet-street | Monday | 8 P.M. |
| Pathological | 21, Regent-st., Waterloo-pl. | Monday | 8 P.M. |
| Pharmaceutical | 17, Bloomsbury-square | Monday | 9 P.M. |
| Civil Engineers | 25, Great George-street | Tuesday | 8 P.M. |
| Society of Arts | Adelphi | Wednesday | 8 P.M. |
| Microscopical | 21, Regent-street | Wednesday | 8 P.M. |
| Ethnological | 27, Sackville-street | Wednesday | 8 P.M. |
| Literary Fund | 73, Great Russell-street | Wednesday | 3 P.M. |
| Royal | Somerset-house | Thursday | 4 P.M. |
| Antiquaries | Somerset-house | Thursday | 8 P.M. |
| Royal Institution | Albemarle-street | Friday | 8 P.M. |
| Royal Botanic | Inner Circle, Regent's-park | Saturday | 3½ P.M. |

# Proceedings of Public Companies.

*MEETINGS DURING THE ENSUING WEEK.*

THIS DAY.—General Fire and Life Assurance Company—offices, at Twelve.
Wheal Concord Mining Company—offices, at Twelve.

MONDAY.—British American Land Company—London Tavern, at One.
Boardeaux and Cette Railway—London Tavern, at Two.

TUESDAY.—Wheal Curtis Mining Company—offices, at Two.
Wheal Trelawney Mining Company—Liskeard.
Duffryn Llynvi and Porthcawl Railway—White Lion, Bristol, One.
Equitable Gas-Light Company—offices, at One.

WEDNESDAY.—Llynvi Valley Railway—offices, at One.
Great Luxemburg Railway—Brussels, at One.

THURSDAY.—Wheal Mary Ann Mining Company—Liskeard.
Universal Salvage Company—offices, at Two.
Namur and Leige Railway—London Tavern, at Twelve.
Medical, Legal, and General Life Assurance Company—offices, Twelve.
Law Life Assurance Society—offices, at One.

SATURDAY.—Claridge's Patent Asphalte Company—Paris, at Two.

*[The meetings of Mining Companies are inserted among the Mining Intelligence.]*

## LOUVAIN A LA SAMBRE RAILWAY COMPANY.

The proposed amalgamation of this company with the Luxemburg Company appears to have been very generally misunderstood—many of the shareholders terrifying themselves with the idea that such amalgamation is to embody the two companies for the construction of the whole of the length for which their lines were conceded; and this misunderstanding has been not a little confirmed by the distribution of a letter, in the form of a pamphlet, written by M. E. Chatard, the late secretary to the company (who had been requested to resign his situation), which had been largely circulated among the proprietors. The real merits of the case, and the prospects of the company, under their present circumstances, will be better understood from the proceedings of a general meeting of proprietors, held at the London Tavern, on Tuesday last, the 11th inst.,—JOHN BARNES, Esq., in the chair.

The CHAIRMAN explained, that the directors had thought it necessary to call the proprietors together, to take into consideration the forfeiture of a certain number of shares, on which the last call of 2*l.* had not been paid—the proposed amalgamation with the Great Luxemburg Company—so far as respects the formation of a line of railway from Brussels to Namur—the raising of the capital necessary for such purpose, and other business, which would be explained in the report.

This was read by the SECRETARY, and it stated that, since the date of the last report, considerable progress had been made, most especially as regards the purchase of land and advance of works on the section between Louvain and Gastuche. There, all that science and activity could effect had, since October last, and in despite of a long and unusually severe winter, been accomplished by the engineers and contractors; that the almost unlimited mineral riches which lie buried beneath the surface of a great portion of the country to be traversed by the line, were of themselves more than a justification for persevering against all present obstacles and difficulties—to secure the earliest possible realisation of results equally certain and satisfactory; that the amount expended in effecting what had been done within the town and immediate neighbourhood of Louvain, and on the section from Louvain to Gastuche, was—

| | | | |
|---|---|---|---|
| For the purchase of land, &c., and laying down the railway | £17,640 | 0 | 0 |
| For monthly payments to contractor, up to the 31st of March last | 19,280 | 0 | 0 |
| For engineering expenses, including the works of the tunnel, &c. | 8,720 | 0 | 0 |
| For plant, bricks, fencing, &c., and sundries | 5,860 | 0 | 0 |
| Total | £51,500 | 0 | 0 |

An inspection, by an intelligent person, of the works themselves would best show how much has here been done, and, as compared with similar undertakings in England, at how reasonable a cost. The call of 2*l.*, made on the 30th May, 1846, was divided into two payments, and which, if fully paid up, would, together, have yielded 77,000*l.*; but the state of the money market at that period was such, that, on the former, there was received only 27,030*l.*, and on the latter 26,845*l.*—the two presenting a direct and immediate deficit of 23,125*l.* The directors were thus suddenly curtailed in their resources; but being naturally unwilling, if it could be avoided, to check the progress of works which it was desirable should proceed as rapidly as possible, they waited some months, in the hope that the money market would present a more favourable aspect. At length, however, all reasonable expectation on this score was exhausted, and directions were accordingly issued, as regarded the large purchases of land, and also in respect to the extensive engineering operations on the section from Louvain to Gastuche, to reduce the current outlay to such a scale as the means in their hands would warrant. With respect to the line from Charleroy to Jubert, no further difficulty is to be apprehended; and the most ardent wish of the directors, therefore, is, that the works connected with this promising section shall be allowed, more especially during the coming fine season, to be urged to completion with all possible activity and dispatch. There is a deficit on upwards of 11,600 shares. On reference to the certificates, it would be seen there clearly set forth, that the directors had full power, of their own act, to pronounce the forfeiture of these shares; but, under the peculiar circumstances of the case, it was preferred that the meeting should exercise its discretion on this important point. In October last a statement was submitted of the company's position, as connected with the Grand Luxemburg line: events equally important and unexpected have, since that period, suggested the advantage to be reaped from a union of the two interests by an amalgamation of the companies, which, though perfect in its nature, should be only partial in its extent, as thus:—The Luxemburg Company have the concession of a line, which, commencing at Brussels, and extending to Wavre, recommences at Namur, and runs thence to Luxemburg. That conceded to the Louvain a la Sambre Company begins at Louvain, and, passing Wavre, runs on to Gembloux, whence a bifurcated line continues it on the one side to Namur, and on the other to Charleroy. By this it will be at once seen, that, in order to make the Luxemburg line available to its full extent, both of length and value, it was necessary that an arrangement should be entered into with this company for the passage of their carriages over such part of this railway as constituted the intermediate space between the two portions of their line; while this company, in order to obtain the privilege of running their trains the entire distance from Namur to Brussels, and *vice versa*, were compelled to pay, in like manner, a toll to the Luxemburg Company for making use of the section of their railway which extended from Wavre to the capital. An agreement to this effect was accordingly concluded. Delegates from both directions have visited Belgium; and they are happy to say, that, as the idea appeared to tend equally to the advantage of the English capitalist and the convenience of the Belgian public, the Government of the latter country has come forward materially to assist in carrying it out. A new examination of this portion of the line is to be made; and when the exact course of the new line shall have been settled, and shall have obtained the promised approval of Government, it is to be made and worked at the joint-expense of the two companies—share and share alike; but it is clearly understood, that with the section from Brussels to Namur (and if it should not run through Wavre, a small branch line which must be made to run from some spot upon it to that town) begins and ends the proposed amalgamation. A letter has been received by this board from the Minister of Public Works in Belgium, in answer to one from the directors, asking that a bill might be introduced into the Chambers, granting a considerable extension of the time to which the concession, under pain of forfeiture, now limits the completion of the line; and the letter shows equally the favourable consideration which the company, by its hitherto strict performance of all its engagements, has obtained for itself, and the decided disposition which exists in the Belgian Government to forward its reasonable wishes, and to comply with its just demands.

From the statement of accounts, it appeared that the entire receipts had been 5,419,717 frs.; and the expenses, 2,616,389 frs.—leaving a balance for the continued prosecution of the works of 2,803,328 frs. A very long discussion now ensued upon the fact of the accounts not having been printed with the report, and which, it was persisted in by a few shareholders present, ought to have been done some days before the meeting, and forwarded to each shareholder. Much stress was laid on the arrangement with Mr. Taste, of whom the concession had been purchased. Great misapprehension evidently existed on the subject, and an adjournment of the meeting was loudly called for.

Mr. S. J. CAPPER (the vice-chairman), however, explained the transaction: he acknowledged that 72,000*l.* was too much to have paid for it—but, it must be remembered, that it was during the time of the greatest excitement, and they could at that period have sold it at a profit. They, however, from the ill-treatment they received from M. Taste, and considering he had made a hard bargain with them, determined to make a hard bargain with him; and had charged him with the entire expenses of the formation of the company, the payment of the directors, and with every cost which they legally could. He had now thought fit to go to law, to compel them to pay the instalments before they were due; and, it was probable, he would find himself *minus* an amount of money, which the directors under their agreement, had he behaved honourably, would have been ready to have paid him. At all events 20,000*l.* of the 72,000*l.* was not to be paid *at all*, unless the line paid a clear profit of 5 per cent. per annum for the first three years after opening; and then, of course, no part of that sum until the expiration of that term.—MR. FISHER, who was evidently one of the strongest opponents to the measures recommended by the directors, inquired if the construction of the Mount Cæsar tunnel had not been done in direct opposition to the recommendation of the Government engineer?—and Mr. WRIGHT (the engineer) immediately explained, that the line could not have been carried by any other route, and that he had no doubt Mr. Fisher had taken his information from a letter published by M. Chatard, the late secretary, which was false from beginning to end. If the meeting wished he would go through it, paragraph by paragraph, and show the entire fallacy of each.—Mr. CAPPER explained the position of M. Chatard as late secretary with the company, and said his dismissal had caused much ill-feeling.—M. CHATARD, having been called for, presented himself, and, in a rambling speech, attempted to defend the line of conduct he had pursued, but did not make much impression on the meeting.

M. CONSTANT D'HOFFSCHMIDT, late Minister of Public Works in Belgium, one of the directors, addressed the meeting in the French language, and eloquently defended the perfect legality of the amalgamation with the Great Luxemburg Company (which M. Chatard denied). He also clearly proved the value of the traffic, both of passengers and merchandise, from Namur through to Brussels, and showed the great advantage in point of economy which must accrue to both companies, by their jointly constructing this portion of their line, besides the tendency it would have in preventing rivalry, and rendering both parties anxious for the general good.—In answer to a question from Mr. Capper, Sir WM. MAGNAY, the chairman of the Great Luxemburg Company, stated, they were perfectly prepared to advance their portion of the capital, as soon as the agreement was ratified.—After a very lengthened dicussion, during which many shareholders left the room, the few opponents contesting the resolutions at every step, the report and accounts were received by a majority of 36 to 5, and resolutions to the following effect were adopted:—

1. That all shares on which the last call of 2*l.* per share has not been paid, be and are hereby forfeited, except 3820, allotted to Mr. Taste in Belgium, which are now waiting legal decision.
2. That the proposed amalgamation with the Great Luxemburg Company be carried out.
3. That the necessary capital be raised, according to the plan recommended by the directors—viz., raising new 10*l.* shares; such shares to be allotted to the holders of shares on which 6*l.* has been paid, in the proportion of 1 for every 20*l.* share, with a bonus of 2*l.*
4. That these new shares be allotted to proprietors who shall apply within one month after the plan receives the Royal assent: the remainder to be offered to the public; and
5. That the above forfeited shares be opened for revival, on a plan to be hereafter submitted by the directors.

The meeting then separated.

## NATIONAL PROVINCIAL BANK OF ENGLAND.

The annual meeting of this company was held on Thursday, the 18th inst. at the office of the company, in Bishopsgate-street-within.

JOHN MELVILLE, Esq., presided.

Amongst the shareholders and directors present, we observed the following gentlemen:—Col. Browne, Lieut. Col. Cochrane, Sir David Scott, Bart., Sir J. N. R. Campbell, K.C.H., C. H. Ellis, Esq., Henry Waymouth, Esq., J. Hamilton Story, Esq., George Norman, Esq., W. J. Maxwell, Esq., John Hineman, Esq., Robert Hitchens, Esq., J. M. Factor, Esq., Horace Twiss, Esq., Edward Stewart, Esq., R. Bell, Esq., T. F. Wilson, Esq., W. Bell, Esq., J. Kingston, Esq., P. Cruikshank, Esq., G. Stodart, Esq., A. Hill, Esq., J. Nicholson, Esq.

MR. ROBERTSON, the general manager, read the notice convening the meeting.

The CHAIRMAN said, it would be naturally expected that some reference should be made by him to the state in which the country had lately been with regard to its monetary concerns. With respect to the pressure which existed, and from which we now appeared to be slowly emerging, he was happy to say, that the bank never stood in a more satisfactory and independent position than at this moment. (Hear, hear.) Its resources were never more at its command; and they were thereby enabled to give every legitimate accommodation required of them by their customers. (Hear, hear.)

The following report was then read to the meeting:—

REPORT.

In their annual meeting with the proprietors, the directors have on no occasion felt more satisfaction than they now experience, in submitting their fourteenth report upon the company's affairs. Shortly after last annual meeting, the business of the Stockton and Durham County Bank, carried on at Stockton and Guisborough, was incorporated with that of this company at those places. This arrangement has been attended with a valuable increase of connection from amongst the agricultural interests of that district. In the course of last year, the directors came to the determination of withdrawing the branches established at Northwich and Croyland, where the business, always inconsiderable, had become less remunerative, in consequence of the restriction of the country circulation by the Banking Act of 1844. The statement of account, which the directors have now to submit to the proprietors, is made up as usual at the close of the year on the 31st December last—a date which, it will be observed, is antecedent to the great increase which has taken place in the value of money. But, although the bank had not the benefit of high rates during the period which is embraced in the account, yet steady and active employment was found for the company's funds, and the directors are happy to state, that the result which they have now to exhibit exceeds that of any former year's operations. The usual summary is as follows:—

| | | | |
|---|---|---|---|
| January 1, 1846.—Amount of undivided profits | £66,468 | 2 | 2 |
| December 31.—Net profits of 1846, after making allowance for bad and doubtful debts, and for a proportion of preliminary expenses | 33,147 | 7 | 8 |
| | £99,615 | 9 | 10 |
| Deduct dividend of 5 per cent., for 1846, on company's stock | 20,541 | 10 | 0 |
| Leaving undivided profits at 31st December, 1846 | £79,073 | 19 | 10 |
| And making an addition to the reserve fund of | £12,605 | 17 | 8 |

In this satisfactory condition of the company's affairs, it appears to the directors that an increase may with propriety be made in the dividend, and they have accordingly great pleasure in announcing their intention of declaring a dividend at the rate of 6 per cent. per annum, for the half year ending 30th June next. The directors would not have taken this step, but under a well-grounded conviction that, in future years, they will not only be able to maintain this dividend, but at same time continue to add to the reserve fund. The directors, who go out of office by rotation, are—John Melville, Esq., Horace Twiss, Esq., and Walter Bentinck, Esq.; but, being eligible for re-election, offer themselves accordingly.

The CHAIRMAN moved the adoption of the report.—Mr. SANDEMAN seconded the motion, which was passed unanimously.

Mr. ELLIS (a director) moved the re-election of the three retiring directors—in doing which he observed, that little was needed to be said on his part in behalf of their worthy chairman and the other gentlemen, as he saw many proprietors then present who had long honoured them with their confidence. He would, therefore, move that John Melville, Horace Twiss, and Walter Bentinck, Esqs., be re-elected directors. (Hear, hear.)

Sir JOHN CAMPBELL (a director) seconded the motion. He could also bear his humble testimony to the merits of those gentlemen. He considered their re-election would not only give an additional weight to the character of the bank, but was actually necessary, for conducting its operations, on account of their extensive and practical experience on all matters touching its interests. (Hear, hear.)—The resolution was passed unanimously.

The CHAIRMAN returned thanks.

Capt. PORTER complained that he had not received the circular calling the meeting till the previous evening: he would suggest, whether it would not be better to send them out 10 or 14 days previous to the meeting?

Mr. ROBERTSON (general manager) said, it was done so at the request of some proprietors, who thought, by receiving them a day or two before the day of meeting, it was not so likely to escape their recollection as when sent to them a fortnight previously.

Mr. BELL thought three or four days, previous to the meeting, would be preferable to 10 or 14 days. (Hear, hear.)

Capt. PORTER suggested, that the usual custom should be followed in this company of putting stars against the numbers of the votes of the proprietors.

The CHAIRMAN thought it was only the custom of the East India Company.

Capt. PORTER was of opinion, that it was the custom of the Provincial Bank of Ireland and other companies: he threw it out as a suggestion, if it should be attended with no inconvenience.

The CHAIRMAN saw no objection to the proposal.

Mr. BROWN said, that looking at the profits of the past year, and the increase of the rest to 79,073*l.* 19s. 10d., besides the addition of 12,605*l.* 17s. 8d. to the reserve fund, he concluded that it was solely owing to the great exertions, the great ability, and the great perseverance and discretion of the directors, as well as the others, to whom the management of the bank's affairs had been confided. Looking at all these advantages to the proprietors, he would suggest, whether they ought not to take into consideration the propriety of giving a reward, in some way or other, to the clerks of the establishment, whose affairs has been so profitably conducted? (Hear, hear.)

Capt. PORTER thought, as the subject had been brought before the directors at this meeting, and they knew the feelings of the proprietors, it would be much better to leave such a matter to the discretion of the directors. (Hear, hear.)

Mr. HICHENS gave every credit to the officers of the establishment, but thought it was more a question for the directors.

The CHAIRMAN stated, that the directors made it a point annually to review the salaries of all the officers and clerks, and gave such additional remuneration as each case called for; that had been the custom hitherto, and he thought it the best plan to pursue in so extensive an establishment. He (the chairman) then stated, that the business of the annual meeting having been disposed of, they would now proceed to that of the extraordinary meeting.

Mr. ROBERTSON (general manager) here read the advertisement convening an extraordinary general meeting, for the purpose of considering the propriety of altering the deed of settlement in such way, that the number of the directors of this bank should never be less than 12, nor more than 18.

The CHAIRMAN said, the original deed limited the number to 24, and, subsequently, the number was fixed at 18. Now, in the course of working the establishment, they did not find it necessary at all times to have a full board; at the same time, circumstances might occur, which might make it desirable for the directors to increase the board to that number. At present, when a vacancy occurred, it was imperative on the board to fill it up within two years. It was, therefore, thought desirable, that the directors should possess the power required by the resolution.—The resolution to the above effect having been read and moved by the CHAIRMAN, Mr. STOREY seconded the motion, which was passed unanimously.

The CHAIRMAN said, the object of this was, not to take from the proprietors the power of electing directors, but merely that the directors should be privileged to say when there was a vacancy. (Hear, hear.) He believed the same plan existed with regard to the London Joint-Stock Banking Company. There would be a meeting afterwards to confirm this resolution, but it would be merely a matter of form.—A vote of thanks to the chairman and directors, for the zeal and ability they had exhibited in the management of the bank during the past year, was passed unanimously.

The CHAIRMAN, in acknowledging the vote of thanks to himself and the directors, said, that it was very gratifying to them to enjoy, in so full a degree, the continued confidence of the proprietors, and this conviction would stimulate, if possible, still more their exertions for the advantages of the company. Great and important as the establishment might be, he considered it but still in its infancy; and, if he were to give expression to his anticipations of what it might become a few years hence, he was afraid that they would think he was advancing into what might be called, in Chinese phraseology, "the flowery region." He had, however, a confident hope that its future progress would bring increasing advantages to the proprietors, and great benefits to the general interests of the country. (Applause.)

Mr. BROWN thought that the thanks of the meeting were due to the general manager, branch managers, and other officers of this establishment, by whose experience and indefatigable exertions the welfare of the bank had been so materially promoted. (Hear, hear.)—Capt. PORTER seconded the motion.

The CHAIRMAN stated, that in his experience in the management of very extensive concerns, he had never known a greater display of judgment and talent in any body of officers, than was exhibited by those they had the pleasure of possessing in this company.—The motion was passed unanimously.

Mr. ROBERTSON (general manager) returned thanks on the part of himself and the other officers of the establishment, for the very kind and encouraging manner in which the proprietors had been pleased to notice their exertions during the past year, which, they were happy to think, had resulted in an increase of profit to the company. He was not too sanguine, when he said that they might look forward to a further and much larger measure of success than hitherto. (Applause.) As to the local officers, it must be obvious to the proprietors, that the interests of the establishment, in no small degree, depended upon the manner in which it was represented in the country; and, with respect to those gentlemen, he trusted he might be allowed to say, that as a body, he believed no bank could have more efficient and zealous representatives than the company possessed in its local managers. (Applause.) He would repeat, that they were much gratified by the remarks which had that day fallen from the proprietors, and could, with sincerity, say, that in their several departments they were animated by one wish—to promote the prosperity of the bank, and especially to uphold its character as a banking institution, being well convinced that its stability and independence in such seasons as the present must ever form its best title to the confidence and support of the public. (Hear.)

The business now being ended, the meeting adjourned.

NORTH WALES RAILWAY.—A special meeting of proprietors was held yesterday, at the offices of the company, Guildhall-chambers, to consider the propriety of reducing the number of directors from 11 to 8, in accordance with the provisions of the North Wales Railway Amendment Act, passed last year. A requisition for such an object had been presented to the directors—MR. SHAW (of Huddersfield) in the chair.—The usual routine business having been transacted, a very irregular discussion took place, as to the best method of investing the funds of the association, and in order to give time for the attendance of parties for the purposes of investigation, and the meeting was adjourned to Monday month.

READING, GUILFORD, AND REIGATE RAILWAY.—A meeting of shareholders was advertised to take place yesterday; but the directors having found themselves in a position to transact the required business without the sanction of the shareholders, no meeting took place.

WATERFORD AND KILKENNY RAILWAY.—The half-yearly meeting of shareholders took place yesterday, at the London Tavern—P. S. BUTLER, M.P., in the chair.—The directors' report was hopeful in its tone.—In answer to a proposition, Capt. Moorson, the engineer said, that the original capital was 332,000*l.*, and for about 120,000*l.* more, making 452,000*l.*, the line could be completed down to Waterford, which was for providing a double and a certain amount of stock. It did not comprise the completion of the branch line to Kells. From the balance-sheet, it appeared that the receipts were 136,244*l.* 18s. 4d., and the balance at the bankers was 8218*l.* 16s. 1d.—Mr. FAGAN asked what farther liabilities they were under, than the 1800*l.* paid to the railway mentioned in the balance-sheet. The SECRETARY said, 1250 shares of 20*l.* each.—Mr. LAIRD asked if there was any fear of the projected loan from the Government being opposed in Parliament.—The SECRETARY said, they had received notice to prepare for their mortgage, which would be between the company and the loan commissioners, and was not likely to be affected by any thing in Parliament. The report having been adopted, the meeting adjourned.

The special meeting of the Plymouth and Dartmoor, to determine the sale of a part of the line to the South Devon, adjourned to the 1st of June, to give time to a committee to conclude the arrangements.

THE ATMOSPHERIC RAILWAY SYSTEM.—During the past week, we again visited the working model of Clarke and Varley's system, which has been laid down at the Blackwall terminus, and found it working to the entire satisfaction of the inventors, and the most sanguine of their friends. We intended entering into some particulars, with illustrations, but find our space too limited this week; but we would recommend our readers to pay those gentlemen a visit, as the admirable working of their model line will alike gratify the friends of the atmospheric system, and astonish the most sceptical.

THE IMPROVED BOCCIUS GAS BURNER.—A paper was read at the Society of Arts, on Wednesday, the 5th inst., from Mr. Boccius, of the Adelphi, on the peculiarities of his improved gas burner. A variety of burners of diversified forms, and by different artists, were exhibited; the Boccius light was distinguished by its uniform breadth of flame and brilliancy. In the paper, Mr. Boccius stated, that the two most important points in the consumption of gas were economy and perfect light; these desiderata he had produced by his burners, although one of them (economy) had hitherto been overlooked, when a large amount of light had been required. The patent for his present burner and appendages had been taken out in Feb., 1843, and their construction allowed such an amount of atmospheric air to be admitted, as completely oxygenated the burning hydro-carbon; and, at the same time, kept up in all parts, even to the apex of the flame, that amount of intense heat which was requisite for the incandescence of solid carbon, and which incandescence was the cause of luminosity. No given form of burner was necessary, as the upper apparatus was adapted to all forms, whether flat, half circular, triangular, circular, hexagon, or octagon. Mr. Boccius then proceeded to illustrate, by a model, the construction of his upper apparatus, which constituted the novelty of his invention, and by which the combustion was kept up to the summit of the flame. His first patent, taken out in 1842, was for two or more chimneys, of a material capable of enduring continual incandescence, by means of which the common air was passed along a large surface of flame, and, coming in contact with the inner chimney, kept up the force of the combustion; but that was incomplete, inasmuch as the flame became conical at its surface, and occasioned a loss of light—thus, an inch burner would give a flame which was only ¾ in. at the summit, and thus one-quarter of its extent was lost. The last patent was for a flame magnifier or expander, which kept the column of light as great at the top as at the bottom. This arrangement might be applied to the first patent, or, indeed, any burner on the Argand principle. This expansion of flame caused no farther consumption of gas, and it was effected by what appeared a metal band inside the glass, but which, in fact, were chimneys; these, with the glass, induced an artificial pressure of air, which kept the flame perfectly steady. The "expander" consisted of a metal rod, thickened gradually towards the top to a flat surface. Mr. Boccius then proceeded to show several other peculiarities—one of which was, that by the perfect light of his burners, all colours, such as yellows and plum colours, appeared in their proper hue, instead of becoming white and black, as in the light of other burners. He mentioned that Mr. Spooner, in the Strand, showed his pictures in their proper colours, with a much smaller expenditure of gas than by any other burner. The chief merit of the invention was, the obtaining of increase of light from the same quantity of gas, with a greater steadiness and purity of flame—there being no deposit of soot, in consequence of the perfect combustion of the whole mass of carbon emitted by the burner. In explanation, and in reply, to Mr. Roberts and Mr. Newton, Mr. Boccius stated, in what his invention differed from, and was superior to, "the Birmingham button," and also that "the universal burner," which was on a similar principle, had appeared since his patent was taken out.

NEW CAMPHINE LAMP.—In Dr. Bachhoffner's lectures on light, at the Polytechnic Institution, he introduced an improved camphine lamp, called by the inventor "the gem," the light from which appeared to the eye of dazzling purity and brilliancy. In its construction, the inventor has adhered closely to the only true principle—viz.: that of Argand—with such additional parts for the supply of atmospheric air necessary for obtaining perfect combustion of the spirit; these, however, are of so simple a nature, that instead of that complexity which has always been a great drawback to the use of these lamps, this, on the contrary, is trimmed like any common lamp for burning oil, added to which, its construction entirely prevents that intolerable nuisance of soot and smell so commonly experienced with very many lamps, sold under the name of camphine.

## The Miners' Manual, and Shareholders' Guide.

BY J. Y. WATSON, ESQ., F.G.S.

MARY CONSOLS COPPER MINE, in St. Neot, near Wheal Sisters; in 256 shares, 42*l.* per share paid up; present price, 25*l.*—conducted on the Cost-book System. Purser, E. A. Crouch; manager, Capt. Nance. The sett, in extent, is 700 fms. on the course of the lode; is held on lease for 21 years, from 1845, at 1-15th dues for one part, and 1-20th for another—the lords being Mr. J. Michell, and the representative of Mr. T. Robins. Operations were commenced in August, 1845, and ores have been returned to the value of 300*l.* 1s. 10d. The outlay has been for labour, &c., to end of 1846, 3754*l.* 7s. 10d.; for materials and machinery, 6888*l.* 5s. 7d. The engine here, of 63-inch cylinder, is the largest in the Liskeard district; it is direct-acting (without bob over the cylinder), and besides draining the mine, lifts water to work a large water-wheel, by which winding machinery is worked, instead of having a steam-whim, and there is sufficient spare power for stamping and crushing. Wheal Mary was formerly worked in one lode, which yielded 20,000*l.* worth of ore, and the present company took the mine in order to explore the old lode east and west, and also the side lodes, towards which cross-cuts have been commenced in the old working; these have been extended, and one lode has been cut, from which the 300*l.* worth of ore was taken; others are expected shortly to be intersected, and in the bottom of the old mine (80 fms. below adit), a course of copper and tin has been discovered. The prospects for intersecting more lodes, and also from the Wheal Sisters lode yielding so well, only 30 fms. from Wheal Mary sett, make this a fair speculation. There are 83 persons employed.

GREAT ROUGH TOR CONSOLS is in the parishes of St. Cleather, Davidstow, and Altarnun, in the county of Cornwall, about five miles from Camelford; divided into 512 shares, 6*l.* per share paid up; market value, 25*l.*—conducted on the Cost-book System. The shares are firmly held, more than one-third of them being owned by Messrs. J. and W. A. Thomas, of the Devon Great Consols (Maria), the latter gentleman undertaking the office of purser; Mr. J. H. Hitchins, of Tavistock, consulting surveyor; Capt. Joel Hitchins, agent. This concern is comprised under three leases, and extending over a surface of 1193 acres, and being between 1100 fms. and 1200 fms. on the course of the lodes. No. 1, Old Park, is held from R. Spry, Esq., for 21 years, from the 8th of May, 1846, at 1-15th dues. No. 2, Lamlary Moor, and other parts of the manors of Penpont, and Treglasta, from the Right Hon. Edward Granville, Earl of St. Germains; Miss Margaret Hocken; Augustus Coryton, and George Haye, Esqrs., for 21 years, from 29th September, 1846, at 1-15th dues. No. 3, Penedern, from Mr. G. Gillard and wife, for 21 years, from the 22d December, 1846, at 1-15th dues, and 12s. per land-yard for all lands covered and spoiled for cultivation; and 1s. per annum for every land-yard temporarily occupied. This district is comparatively unexplored, only two imperfect attempts having been made on Bray Down to the eastward, and now abandoned—the setts under consideration, are immediately at the junction of the granite and killas. The principal lode has been costeaned upon for nearly 700 fms., and presents the most flattering appearances, being 18 ft. wide, composed of the finest gossan, and the capely part of it having spots of copper and mundic throughout. There are three engine-shafts sinking—two to take the lode at 60 fms., and the other at 100 fms. A steam-engine of 40-inch cylinder has been contracted for, and will be on the ground as soon as the engine-house is ready to receive it. The whole of the works are carried on in the most spirited manner, and with a determination to discover the true value of the property, in the shortest possible time, compatible with the judicious application of capital.

TOKENBURY MINE, in the parish of St. Ive; conducted on the Cost-book System, in 128 shares; amount paid per share, 145*l.* 10s.; market value, 17*l.* Purser and manager, E. A. Crouch, Liskeard. The sett, which is 440 fms. in extent, on the course of the lodes, is held on lease for 24 years, at 1-15th dues from 1841—the lord, or surface owner, being Mr. J. Elliott. The mine commenced working in June, 1841—no returns have been made, and the outlay by the proprietors has been upward of 18,000*l.*, as follows:—Expenditure in labour to end of 1846, 11,116*l.* 2s. 7d.; expenditure in materials and machinery, 7327*l.* 16s. 9d.—making a total of 18,443*l.* 19s. 4d. The number of persons employed is 45. The mine is said to contain the lodes of West and South Caradon, but we believe they have never yet been found productive; the gossans on the backs of the lodes are fine—and mundic being found in the deepest parts of the mine, it is inferred the ore lies deep. The engine erected by Messrs. Hoking and Loam, is of a very useful description; it is a 22-inch cylinder, rotative, working expansively, and pumps the water from two engine-shafts 140 fms. apart, also draws the stuff at both shafts, and yet consumes but 15 cwts. of coal per day.

CRADDOCK MOOR, in St. Cleer; divided into 240 shares, 16*l.* 10s. paid; nominal market value, 15*l.*—conducted on the Cost-book System.—Purser and manager, E. A. Crouch, Liskeard. The sett, 520 fms. on the course of the lodes, is held on lease from G. P. Norris, Esq., for 21 years, from 1844, at 1-15th dues. Operations were commenced in March, 1844—no returns yet made, outlay as follows:—Labour, &c., to end of 1846, 2034*l.* 17s. 7d.; materials and machinery, 1867*l.* 9s. 10d.—making a total of 3902*l.* 7s. 5d. Number of persons employed, 25. The sett adjoins West Caradon to the north-west, and has all but one of the productive lodes of that mine—Menidue lode being in the sett, according to calculation, at the 25 fm. level, and Vivian's, Dunstan's, and Gilpin's, at surface—it has also the Gonamena lodes. As the West Caradon workings approach Craddock Moor, this mine is likely to increase in value. The workings, except for discovery of the lodes, have been sinking shafts from surface on two lodes, containing more or less ore from near the surface. The engine draws both water and stuff.

GONAMENA, in St. Cleer; in 256 shares, 29*l.* 10s. paid up; market value, 50*l.*—on Cost-book System. E. A. Crouch, Liskeard, purser and manager. The sett, 480 fms. on the course of the lodes, is held on lease for 21 years, from 1844, at 1-15th dues—the lords being Messrs. J. and J. Elliott. Operations commenced in June, 1844, and the outlay to end of 1846 has been as follows:—Labour, &c., 3561*l.* 8s. 6d.; materials, &c., 3601*l.* 5s. 9d.—making a total of 7162*l.* 14s. 3d. Number of persons employed, 49. The mine is immediately to the north of West Caradon, and the new lode discovered in the latter mine underlies (eastward) into Gonamena. There are several promising lodes discovered in the sett, by driving on the same cross-course, on each side of which, the lodes of West Caradon have been so productive; but as the deepest level is only 34 fms., it is early yet to expect much ore. The engine here is of the same description as at Tokenbury.

THE COST-BOOK.—It has been suggested to me by several correspondents, novices as they say in mining matters, that it would be well in this place, as all the mines hitherto named, are conducted on the "Cost-book System," to state what that system is, and the advantages it possesses to the shareholder—this I shall do as briefly as possible. The conducting of mines, on what is termed the "Cost-book Principle," is peculiar to the county of Cornwall, where it has for ages been recognised by the Stannary Courts, and is, in itself, extremely simple. There has, however, been of late much discussion upon its privileges and powers, and which has tended more to mystify than to explain. All companies for working mines, formed and carried on upon the *principle* of the Cost-book, are especially exempt from the operations of the Joint-Stock Registration Act. The simple principle is this:—On the formation of a company, a cost-book is produced; on the first page is given the name of the mine, with a form something like the following:—

"We, the undersigned, do hereby consent and agree to become shareholders, adventurers, and partners in the ——— Mine, situate in the parish of ———, in the county of ———, in the shares and proportions hereunder, the entirety of the said mine being divided into —— shares, and the mine conducted on the usual Cost-book System."

Under this, the names of the shareholders are entered, with the number of shares taken by each adventurer, and he signs it opposite his name. The rules and regulations for the government of the company are then made, and entered in like manner; these generally refer to the privileges and powers of the "cost-book," provide for their being carried out, and for the general management of the company. All debts and liabilities incurred in working the mine, should be paid every month, and a meeting of shareholders called every *two* months, to audit the accounts, examine vouchers, &c. If there be debts, a call should be made to pay them off, and to provide money for the next two months' working. If any profits, they should, so far as may appear prudent, be divided. By this arrangement, which is the best feature in the cost-book, every shareholder knows his liability, and can end it at any two-monthly meeting—it being part of the system (and should be provided for in the rules), that at any two-monthly meeting a shareholder may pay his proportion of debts due to that date, and "sign-off" his name from the cost-book as no longer a shareholder, and consequently not liable for any debts contracted after his so signing off. For instance, say A B has 1-64th in Wheal ———, and the debts amount to 640*l.*, he pays his 10*l.* down, signs off, and in 12 months is entitled to his proportion of the value of the materials, machinery, &c., at the time of his signing off. The cost-book should be kept by the purser, who must call meetings, make calls, pay and receive money. It is, however, competent for the shareholders to delegate two or three of their body, to act as a finance committee, and in London companies this plan is generally adopted. Under the cost-book, if a party wishes to dispose of all, or any part of his interest, a written notice to the purser, signed by the seller, and accepted by the buyer, subject to the rules and regulations of the cost-book, is sufficient: this is pasted in the book, and constitutes the transfer.

[*To be continued in next week's Mining Journal.*]

## Mining Correspondence.

### ENGLISH MINES.

BARRISTOWN.—As far west as we have taken down the lode in the 18 fm. level west end, it looks well, worth over 20*l.* per fm.; the rise in the back of this level, also behind the end, looks well, worth about 20*l.* per fm. The lode in the 12 fm. level, west end, is improving a little, worth about 12*l.* per fm.; the stopes, in the bottom of this level, on middle lode, are looking well, worth from 16*l.* to 18*l.* per fm. In the cross-cut, south of the winze sinking under this level, we have intersected more perpendicular branches of the lode containing ore, but no great improvement has yet taken place; we have driven south of the winze at this point about 6 ft.—the backs, over the 12 fm. level, are worth about 10*l.* per fm. At Clon Mines, we have sunk about 2 fms. on the lode, the part sunk on is about 3 ft. wide, and altogether composed of gossan; it has a great underlay north, with no very regular wall, and several small branches standing south of it; we intend to extend the drift further south—at the present underlay of this lode it would take about 60 fms. to drive south to intersect it from the south cross-cut end. The following is a list of our prices for May month:—Flat-rod shaft sinking, 9*l.* per fm. (6 men); 28 fm. level end west, 3*l.* 15s. per fm. (4 men); 18 fm. level end west, 4*l.* 15s. per fm. (6 men); rise from 28 to 18 fm. levels, 3*l.* per fm. (3 men); rising in back of 18 fm. level, 5*l.* per ton tribute (6 men); 12 fm. level end west, 5*l.* per fm. (6 men); sinking down under the 18 fm. level, 5*l.* per fm., at present driving south at 4*l.* 10s. per fm. (4 men); cross-cut south from 18 fm. level, 3*l.* 5s. per fm. (2 men); ditto east of flat-rod shaft, to hole to kiln shaft, 2*l.* 10s. per fm. (2 men); rise in back of 12 fm. level, 1*l.* 10s. per fm., and 5*l.* per ton (4 men); adit end east, 3*l.* 5s. per fm. (4 men); Clon Mines (6 men). We hope to have a cargo of 40 to 45 tons ready about the 20th or 25th of this month. Tributers at work, 35 men; prices from 5*l.* to 6*l.* per ton. At Clon Mines, we have cut a drift across the hill on right angles with the bearing of our middle lode, and discovered a gossan lode, and its branches are about 6 or 8 ft. wide—a beautiful gossan, not so much impregnated with iron as at Barristown; there is no doubt but this is a continuation of our middle lode across the flat. The middle lode, above the 18 fm. level never looked better than it does at present, especially westward, The lode above the 12 fm. level continues its course perpendicularly, as high up as we have stoped it, say 3½ fms., or rather more in places; we still continue to rise stopes in the back of this level; I really could not speak of the lode in this back further than we go, as sometimes it takes a very extraordinary bend.—T. ANGOVE: May 7.

BEDFORD UNITED.—At Wheal Marquis there has been nothing done in the sump winze since last report, the sump men having been engaged putting in line of rods, dropping lift, &c. We expect to resume sinking the latter end of the week. In the 80 fm. level east, the lode is 4 ft. wide, producing good saving work. There has been no lode taken down in the 70 and 58 fm. levels since last report. At Liscombe, the lode in the adit level east is 2 ft. wide, and in the rise in this level the lode is also 2 ft. wide, composed of spar, mundic, and ore. The south engine-shaft is 2 fms. 1 ft. under the plat—lode 3 ft. wide, saving work. The lode in the adit level east is 18 in. wide, and producing good stones of ore.—JAMES PHILLIPS: May 11.

BOND MINES.—The engine-shaft, sinking under the 30 fm. level, is down 6 fms. 3 ft.; the drainage under that level has hitherto been carried on by a small 6-in. lift, and temporary connection fixed to the rod. The shaft is now suspended for a time, owing to an increase of water, and must remain so until bob-plat is cut, and bob fixed at the 30, and larger bore pumps put in; this work will be proceeded with immediately, on the pending arrangements being completed; the lode in the shaft, when suspended, was of a kindly character, but not producing much ore. The lode in the 30 fm. level, driving south on the hanging wall, has passed through some pretty ore ground during the past month, but is at present gone poorer; I have put a pare of men to rise here, the ground being all whole to surface, and shall be able to speak more fully on this point in a week or two. You are aware the 30 fm. level, driven south on the footwall side, has left some good ore ground gone down in the sole; I have commenced to sink a winze in this level, about 25 fms. south of the engine-shaft; the lode is producing some good ore at present—on the whole, we cannot look forward to any great results until the 40 fm. level has been extended under this ground; it is evident that the lode becomes richer and more regular in its bearing in depth, and the present extension of shares has been decided on, to carry out the foregoing objects, whereby the mine will be made profitable, with as little delay as possible. The surface shaft sinking on the lode, about 100 fms. south of the engine-shaft, is down 6 fms. 3 ft., producing stones of ore all the way down; this shaft is about 10 fms. from the great cross course, and, from the present kindly appearance of the lode, I have a strong opinion that we shall meet with a rich deposit of ore, either on this or the side of the cross-course—that is, when we have sunk deep enough to get into settled ground.—JAMES SKIMMING: *Castle Blayney, Ireland, May* 4.

CARADON UNITED.—In the 28 fm. level, 14 fms. south of engine-shaft, we cut a lode in the back of the end; it is about 10 in. wide, in the bottom 2 ft. wide; in this place it is a little disordered—it underlays north 1 ft. in a fm., composed of peach, spar, mundic, and portions of yellow copper ore; some of the stones are coated with grey ore, and likely to improve in depth; we have just passed it, and still driving south by four men, at 9*l.* 10s. per fm.; as we have still more lodes before us, I think it proper to continue this cross-cut to intersect them. I have now reason to believe, the first large branches, 2 fms. south of engine-shaft, to be the north lode; the main part of these branches is 20 in. wide—including the whole, is more than 3 fms. wide—composed of gossan, peach, soft spar, prian, flookan, iron, and portions of black ore, and believe they will fall together and improve at a deeper level. I have just put 2 men to drive west on these at 4*l.* per fm.: 2½ fms. south of these we intersected two tin branches, one 2 in., and the other 4 in. wide; we have done nothing on these as yet, but believe they will prove a productive lode in settled ground. We have now commenced to clear up the engine-shaft, and intend sinking as soon as possible.—W. PENROSE: May 7.

CUBERT SILVER-LEAD.—The sumpmen have nearly finished cutting the trip-plat, and I hope soon we shall commence again sinking the engine-shaft. In the 35 fm. level east, the lode is 2 ft. wide, composed of spar, mundic, and lead—a very promising level; in the same level, going west, the lode is 18 in. wide, all saving work, but not at present of a rich quality. The lode in the 25 fm. level west is about 1 ft. wide, and good work; the same may be said of the lode going east at this level. In the 15 fm. level, driving east, lode about 18 in. wide, a kindly level, and yielding some pretty good work. The tributers are working well, and we think most of them earning good wages.—R. ROWE.

DARTMOOR CONSOLS.—We have commenced clearing and repairing the two brother's adit level, and we are getting on with the greatest propriety—much faster than what I anticipated. We shall very shortly clear and repair the adit level as far on as the first adit shaft, and are letting down all the water well. I have been all through the adit level, and like its appearance much, and have seen several good arches of tin, which I intend to take down and bring to grass, as soon as I have some timber home, for which I shall want your order. We must see and get on with our stamps as fast as possible, as they will be shortly wanted to commence stamping of tin; and the quicker we can make returns the better, which will be my greatest care and study to do; the further I go into the mine the better I like her.—JOHN SPARGO: May 12.

DEAN PRIOR AND BUCKFASTLEIGH.—*May* 11.—We have now about 2 fms. to hole from the 50 to the 40 fm. level, and I have put the men to sink on the 40 to meet the men rising in the back of the 50, in order to hole the winze with all possible dispatch; and in sinking in the 40 we have a fine leader of ore, nearly solid, 5 in. big, and the orey part of the lode 1 ft. big, good saving work; in the end west we have gone through what appears to be the top of the shaft, of yellow ore, referred to in my last report; we have now in this end a large lode, the south part of which is 10 in. big, good work for copper; the north part of the lode is of a very promising character, producing a large quantity of mundic, and spotted with ore. We have holed the winze from the 30 to the 40 fm. level, and expect to hole in the early part of the next week from the 40 to the 50 fm. level; these two winzes will give the necessary air for extending the 30, 40, and 50 fm. levels west, with greater expedition, in which direction the shoots of ore dip, and there end; in the deeper levels large deposits of ore may be confidently relied upon. We are making the necessary preparations for dressing the ores, by erecting sheds, laying out the floors, &c. ——*May* 12.—In taking down the lode in the bottom level, I find the south part to be very much improved, varying from 15 to 18 in. big, good saving work; the north part of the lode still maintains its very promising character. The men sinking in the bottom of the 40 are desuing the lode. There is no alteration in the other departments.—H. CHOAKE.

EAST CROWNDALE.—Since Thursday morning the operations in our engine-shaft has been suspended, owing to our boiler and engine-houses having taken fire. I am happy to say the damage done is not near so much as at first anticipated; the injury done being principally confined to the wood-work, the engine having received but trifling damage. We have again got the engine at work, and shall have the water in fork by Monday, when our sinking will be again resumed. We shall use every dispatch in getting the roofing and floor complete; as near as I can calculate, the cost occasioned by this misfortune will be about 120*l.* The lode in the shaft on the north lode at Rix Hill is very much improved since my last report, is about 14 in. wide, composed of spar, capel, peach, and tin, all saving work; we have broken in this small shaft 3½ fms., sinking about half a ton of excellent tin, and shall continue to lay open tin ground that will pay a good profit to take away. The ground in the adit level, towards the Rix Hill lode, continues just the same as when last reported upon, the end is now in 28 fm. 3 ft.; so soon as this level takes the north lode, we shall drive to cut the middle lode still further south, which, if it underlays north, will be about 2½ fms. to drive. On both of these lodes we confidently expect good bunches of tin.—S. PAULL: May 8.——Since writing the above, I have looked through all the circumstances of the damage done to the engine-house, &c., and hope the expense will be less than 100*l.*; and, I am glad to say, the engine works very well, and has forked, since last night, 12 o'clock, 15 fms. The men will proceed to work again to-morrow morning in the shaft, the ground is rather more favourable than last week.—S. PAULL: May 9.

EAST TAMAR CONSOLS.—At Whitsun, the lode in the 64 fm. level north is 14 in. wide, fluor-spar and silver-lead ore; the lode in the 64 fm. level south is 18 in. wide, work of a good quality. The lode in the 60 fm. level north is 14 in. wide, saving work; the lode in the 60 fm. level south is 15 in. wide, good saving work. The lode in the 54 fm. level north is still in slidy ground; the lode in the 54 fm. level south is 14 in. wide, capel, mundic, and ore. The lode in the 46 fm. level, from Gourd's, is 2 ft. wide, fluor-spar and silver-lead ore. At Furzehill, the lode in Harrison's shaft is 20 in. wide, saving work. The lode in the 46 fm. level north is 18 in. wide, work of a good quality; the lode in the 46 fm. level south is 2 ft. wide, producing good stones of silver-lead ore. the lode in the 38 fm. level north is 15 in. wide, fluor-spar and ore; the lode in the 38 fm. level south is 20 in. wide, good saving work. We have shipped off, on Saturday last, 90 tons of silver-lead ore, for Messrs. Mullins and Co., Battersea, London.—B. ROBINS: May 11.

GREAT MICHELL CONSOLS.—The engine-shaft is down below the 22 fm. level 11 fms. 3 ft. the lode therein is composed of spar, mundic, fluor, and stones of ore; in the western winze, now 5 fms. 3 ft. 6 in. below the 22 fm. level, the lode is composed of spar, mundic, and stones of grey, black, and yellow copper ore.—T. RICHARDS: May 11.

GUNNIS LAKE.—At Chilsworthy, Bailey's engine-shaft is 7 fms. 5 ft. under the 12 fm. level, the lode remains without alteration. The lode in the 12 fm. level east, we are still driving south in search of the lode; the lode in the 12 fm. level west is being driven through the great cross-course.—W. RICHARDS: May 11.

HAWKMOOR.—The men in the 15 fm. level, east of Hitchins's shaft, are still driving north in pursuit of the lode.—P. RICHARDS: May 11.

HEIGNSTON DOWN CONSOLS.—The sumpmen are progressing satisfactorily with the cutting down the north shaft under the 20 fm. level. The lode in the 20 fm. level west is 3 ft. wide—good work; in the pitch in the back of this level, the lode is yielding good returns; the lode in the 20 fm. level east, is 3 ft. wide, producing some good work.—W. RICHARDS: May 11.

HOLMBUSH.—The diagonal rods are all fixed, and set to work, which answers to our expectations, and the shaftmen resumed sinking below the 120 fm. level. The lode in the 120 fm. level, west of the great cross-course, is 10 in. wide, producing stones of ore; the lode in the 120 fm. level, east of Hitchins's shaft (on the north part), is 2 ft. wide, composed of mundic, spar, and stones of ore. The lode in the 110 fm. level, east of Hitchins's shaft (on the south part), is 10 in. wide, composed of spar, and stones of rich copper ore; the lode in the 110 fm. level south is 2 ft. wide, composed of spar and lead, worth 7*l.* per fm. The lode in the 100 fm. level south is 2½ ft. wide, composed of spar, prian, and lead, worth 9*l.* per fm.; the lode in the rise, above this level, is 2 ft. wide, composed of flookan, spar, prian, and lead. The lode in the 90 fm. level south is 2 ft. wide, composed of spar, prian, and spots of lead disseminated throughout the lode, and we save the whole of it for dressing.—W. LEAN.

LEWIS.—The lode the 60 fm. level end east is 2½ ft. wide, yielding some tin which will about pay the cost of driving; the 60 end west is suspended, in order to put the men to sink tin-shaft below the 50 fm. level. The lode in the 50 east is 2½ ft. wide, worth 6*l.* per fathom for tin, and very kindly; the lode in the 50 east, on south branch, is 2 ft. wide, worth 9*l.* per fathom for tin; the lode in tin-shaft, sinking below the 50 fm. level, is 3 ft. wide, worth 10*l.* per fm. for tin. The lode in the 40 east is 2½ ft. wide, worth 4*l.* 10s. per fathom for tin. The 30 east is suspended, until we get the costean shaft down to this level—after which, we shall have a better ventilation, and a good discharge for stuff. Our tribute pitches are looking very promising, the average tribute throughout the mine is 7s. 6d.; I find one tributor raised in March last, 11 tons 5 cwts. of tin, and I think April sampling will exceed that of March.—S. S. NOELL: May 8.

LOSTWITHIEL CONSOLS.—On Friday, while at the mine, I found the men in the adit end bringing out some very rich specimens of gossan, impregnated with ore—some of the stones exceedingly valuable, containing a heavy per centage of copper. I will select a few, and get them assayed before the meeting of the 25th; these stones came out of a branch in the centre of the caunter lode, on which we are carrying our adit—the branch came in at first about a foot from the bottom, and is rising rapidly to the back of the level; the depth is about 9 fms. from surface. I will apprise you should it continue.—J. OFFORD: May 10.

MENDIP HILLS.—In the 38 fm. level, driving south of shaft, we have the continuation of the large cavern gone down in the bottom of the 18 fm. level—particulars of which, I have given you in a former report; the lode at this point is very large, composed of flookan, and large rocks of white spar, intermixed with excellent stones of lead. In the slag department, our operations during the past week have been very satisfactory; the bed of slags, from which we are now removing the top rubbish, is extending much farther than my expectation led me to suppose, the average thickness of which is about 14 ft. I expect we shall finish cutting through the wood by Wednesday next, when we shall be quite in order for laying down the launders.—F. G. HARPUR: May 10.

NORTH WALES.—Having carefully examined the mines held under lease by the Silver, Lead, Copper, and Gold Mining Company in Merionethshire, I beg to submit my report on the same. I feel it unnecessary to enter into any detail of past operations, as such are sufficiently explained in the printed reports to which my attention has been directed—therefore, do not feel called upon to remark on the extent of past workings, or quantity of mineral on the surface; while it will be my object, having had 23 years' experience, to apply myself closely to the geology of the district, the returns made, and the amount of money spent in trials, with the prospects held out for the formation of a company with the proposed capital of 125,000*l.* The country contained in the leases, geologically speaking, is that known as the primitive clay-slate formation, without that variety, or regularity, which I should wish to see in a mining district; while I may observe, not intersected with any regular channels of porphery, or other cross-courses, which I consider congenial to the production of mineral—on the contrary, assuming the appearance of a jumble of indescribable ground, as far as mining geology and practice teach us, it contains lodes, as most primitive countries do; but may be ranked as one of the oldest that have received convulsions in nature, and hence not so favourable to mining as other districts more recently disturbed. The country bears the lodes usually found in clay slate, but containing less mineral than any other of the kind, arising, as I imagine, from the want of after convulsions, to give minerals facility of deposit; and although the lodes in some places may exhibit good specimens of lead and copper ore near the surface, yet it will be found that very few of them, if any, have ever there made returns, so as to meet the cost; and I see no chance whatever of an improvement in working the lodes to a greater depth, where the expense of deepening them will increase in proportion to the greater depth obtained, and which can only be effected by the application of machinery. The Vigra and Clogan setts have, I believe, yielded several hundred tons of copper ore, but in no instance have they ever paid one-half the cost of extraction; while the capital employed, amounting to some thousands of pounds, has been a dead loss. Twenty years ago I had the direction of some mines in the neighbourhood, from which we had some ore of fair produce, the returns not paying one-half the amount of the money expended; the operations were, consequently, abandoned. Since that time Vigra and Clogan Mines have been more than once in the market, and my opinion has been requested thereon, but I could not advise parties to embark capital, and subsequent workings have borne me out in the views and opinion then formed of the value of the district as a mining one. That gold has been, and may yet be, found in minute quantities in gossan in poor and good mineral districts, I do not for one moment doubt; but this does not, in the least, change my opinion, as I cannot imagine, for a moment, that such will ever be found in sufficient quantities to pay the expense of the extraction, even after it was brought to the surface. In fact, a mountain of such stuff as I saw is of no value for gold, and could not justify the capital of 125,000*l.*; and I feel wholly at a loss to know what can be intended to be done with so large a sum. In the district and mines proposed by the company, it is impossible that even 10,000*l.* would be spent in driving such levels, as the most sanguine and inexperienced miner might recommend; and expensive dressing machinery, or other surface work, should be carefully avoided, until the result of opening the ground is fully ascertained, and ore raised to justify the outlay. I have thus expressed the opinion I entertain as regards the district generally, and, more especially, the setts acquired by the company. It is, therefore, quite unnecessary to enter farther into detail, unless you wish; but rest assured, that the report of every practical and experienced miner must fully bear out the representations herein made.—ABSALOM FRANCIS.

SILVER VALLEY.—There is no alteration of importance in any part of the mine since Monday last. The lode in the 20 fm. level end west contains spots of lead and silver, and is producing a little saving work; the lode in the stopes, in the back of this level, is producing tolerable good silver work. As we are now in course of driving the 50 fm. level cross-cut towards the tin lode, and shall drain the water from the 40 to the 50 fm. level as soon as the lode is cut, I consider that by sinking a winze from the 40 to the 50 fm. level, in the junction of the branches (where the lode is large, and has a very promising appearance), we should prove the lode under the slide, and in the favourable ground as deep as the 50 fm. level, and in the different floors or channels of ground, which vary a little in colour and density, and in which the lode will, no doubt, vary in its composition, as is seen in other parts of the mine. I would recommend this being commenced with at once, as we cannot say the lode will have as good a trial when the 50 fm. level is driven as far as the junction on the course of the main branch, as the sinking of a winze would give through the floors at the junction of the branches.—S. RICHARDS: May 6.

SOUTH DOLCOATH.—The lode in the engine-shaft is 4 feet wide, very kindly, with good spots of copper ore. The lode in the 20 east is 3 ft. wide, composed chiefly of gossan, with stones of ore; the lode in the 20 [illegible] is 2 ft. wide—gossan and spots of copper ore, very kindly. The engine-shaft is near 5 fms. below the 90 fm. level.—May 10.

SOUTH TAMAR UNITED.—I beg to inform you Mr. West was here yesterday, and put the engine to work; it was a pleasure to see how beautifully she went to work, and to see the stream of water she was heaving, having two 13-in. lifts abreast. The men in the adit level have cleared and secured 35 fms. north from Monday's shaft.—B. Rodda: May 11.

SOUTH WHEAL TRELAWNEY.—Soby's lode in the adit level south is 2 ft. wide, composed of beautiful gossan, barytes, mundic, and spots of lead, the direction of which, at present, is 33° west of south—this will give us a little longer cross-cut should it continue its present direction; the ground is favourable for driving, and the lode may truly be called a very promising one indeed. We expect against next setting day, the 29th inst., this level will be driven south to opposite the cross-cut west from the engine-shaft—after which, we shall suspend all operations here, and remove the men to drive the cross-cut, provided the communication is not made before; and the men that are now driving the cross-cut, with three others, to commence sinking the engine-shaft with all possible speed, from Monday morning early, until Saturday night late. I met Mr. W. West, the engineer, on the mine, and arranged with him to commence erecting the engine in the course of next week; in the meantime, every preparation is being made against the engineer's arrival that no delay takes place. —W. Lean: May 8.

TAMAR SILVER-LEAD.—In the 160 fm. levels, north and south of the shaft, there has been no lode broken since last report. In the 145 fm. level north the lode is 2 ft. wide, composed of capel and ore, work of a good quality; in the same level south, the lode is 1 ft. wide, at present poor. In the 135 fm. level south the lode is 18 in. wide, good saving work. In the 125 fm. level south the lode is 2½ ft. wide, producing rich work for silver-lead ores. At North Tamar, in driving north, at the 60 fm level, the lode is 18 in. wide, composed of can and ore, work of a promising character; in the same level south the lode is 6 m. wide, saving work, and of a promising appearance. We sampled on Saturday, the 1st inst., 89 tons 3 cwts. 1 qr. of rich silver-lead ores.—James Sprague: May 10.

TINCROFT.—We have commenced driving a cross-cut towards the north lode, in the 100 fm. level, in the north mine, and shall soon be able to resume driving the 100 east, on south lode. The lode in the 90 east is 2½ ft. wide, producing some good quality ore, and very promising; the north lode, in the 90 east, is 15 in. wide, saving work—this end we shall only drive occasionally when the sumpmen will not be able to work at the 100; the lode in the 90 west is 20 in. wide, producing some ore—this end will soon be communicated to a winze sunk from the 80, where we have set a pit at 6s. tribute. The lode in the 80 east is 2 ft. wide, producing tinstuff; the lode in the 80 west is 2½ ft. wide, worth 8l. per fm. The lode in the 60 west is 20 in. wide, composed chiefly of mundic, with some ore. The lode in the 50 west is 2 ft. wide, orey. The different winzes are producing ore, and laying open tribute ground. The tribute department continues much the same as for some time past. At Palmer's, we have set eight men more to work—four in the back of the 60, at 5s. tribute; and four in the bottom of the same level at 7s. tribute; the water is but little below the 60, and we expect it will gradually be going down. The lode in the 38 west is 15 in. wide, producing good quality of ore, and very kindly; the back of this level is now being worked by four men at 4s. tribute. At the south mine, on Chapple's lode, we have one pitch working in the bottom of the 100 by four men, at 5s. tribute; and another pitch working in the back of the 90, at 5s. tribute, by four men; the lode in the 90 west is 3 ft. wide, producing some good ore. We have commenced sinking a winze below the 72, to go down on the 90, and the lode is so far unproductive, though kindly; but, altogether, this lode is opening beyond our calculation. On Highburrow lode, the engine-shaft, below the 152 east and west, is producing tinstuff. The winze, sinking below the 120, by six men and three boys, is producing fair quality tinstuff; the lode in the 120 east is 4 ft. wide, worth 12l. per fm. The lode in the winze, sinking below the 100, is 5 ft. wide, worth 20l. per fm. We have now commenced a cross-cut at the 110, to get under the winze alluded to. Our pitches in this part of the mine continue to yield fair quality tinstuff. At Wheal Providence, we are cutting down a piece of ground in the west end of the engine-shaft, to make it a proper size for drawing the stuff from the footway and pitwork; this shaft I expect will be complete to adit in a fortnight; after which, we shall be able to make greater dispatch in clearing the adit.—W. Paul: May 10.

TRELEIGH CONSOLS.—In the 110 fm. level, north from Christoe's, we have cut and driven through the cross-course this week, and are now in search of the lode. In the 100, east of ditto, the lode is 3 ft. wide, but not much ore. In the winze, below the 90 east, the lode is 2½ ft. wide, worth about 25l. per fm. In Garden's shaft, below the 90, no alteration in the ground—it is still in the elvans; in the 90, west of ditto, the lode is 2 ft. wide, producing only stones of ore. In the 80, west of ditto, the lode is 3 ft. wide, worth 12l. per fm.; in the rise, above the 80 east, the lode is 2 ft. wide, worth 30l. per fm.—the rise is not as good as when we commenced. In the 70, west of ditto, the lode is 2 ft. wide, producing a small quantity of ore, not to value; in the bottoms of the 70, east of Symons's shaft, the orey part of the lode is about 2 ft. wide, worth about 10l. per fm. In the 60, west of ditto, the lode is 2½ ft. wide, worth about 8l. per fm. In the adit end east, on Wheal Parent lode, we have done but little this week; the men have been putting up a horse-whim and repairing the shaft.—W. Symons: May 8.

UNITED HILLS.—In the 90 fm. level, eastern end, no lode broken for the past week; in the western end the lode is 3 ft. wide, worth 15l. per fm.; in stopes the lode is 3 ft. wide, worth 30l. per fm. In the 80 fm. level, eastern end, the lode is 3 ft. wide, worth 16l. per fm.; west of cross-cut the lode is 2 ft. wide, worth 8l. per fm. In the 70 fm. level, eastern end, the lode is 3½ ft. wide, worth 12l. per fm.; there has been nothing done in the eastern shaft during the past week. In the 60 fm. level we are not driving—suspended since July last; in the shallow adit the lode is 3 ft. wide, worth 6l. per fm. At Wheal Charles, in the 50 fm. level end, nothing done since survey day. in the 40 fm. level, eastern end, the lode is 2 ft. wide, worth 6l. per fm.; in the winze the lode is 2½ ft. wide, worth 3l. per fm.; the lode in the stopes is 2½ ft. wide, worth 16l. per fm. At Wheal Sparrow, eastern end, the lode is 18 in. wide, worth 6l. 10s. per fm.; in the western end the lode is 20 in. wide, worth 5l. per fm. In the 30 fm. level the lode is 7 ft. wide, worth 16l. per fm. In the 20 fm. level the lode is 2 ft. wide, worth 5l. per fm.; in the adit end the lode is 14 in. wide, poor.—T. Trevenen; R. Williams: May 10.

WEST WHEAL JEWEL.—In the 70 fm. level, west of Hodges's cross-course, on Wheal Jewel lode, the lode is 1 ft. wide, worth 9l. per fm.—it is looking more promising than it has been for some weeks past; there is no alteration in any part of the mine on this lode since our last report. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 15 in. wide, worth 7l. per fm. In the 12 fm. level, west of Quarry shaft, on the same lode, the lode is 1 ft. wide, worth 12l. per fm.; in the winze, in the bottom of this level, the lode is 15 in. wide, worth 10l. per fm.; in the stopes, east of Quarry shaft, on the same lode, the lode is 2 ft. wide, worth 18l. per fm.; in the 12 fm. level, west of old sump-shaft, on the same lode, the lode is 1 ft. wide, worth 7l. per fm.; in the 12 fm. level, east of Rowe's winze, on the same lode, the lode is 9 in. wide, worth 5l. per fm.; in the adit end, west of Quarry shaft, on the same lode, the lode is 15 in. wide, worth 12l. per fm.; in the stopes, in the bottom of the adit, east of Pryor's winze, on the same lode, the lode is 3 ft. wide, worth 25l. per fm.—R. Johns; T. Bray: May 10.

WEST WHEAL MARIA.—The eastern engine-shaft is down 35 fms. 3 ft.; the lode in this shaft is about 5 ft. wide, producing good stones of ore. The western engine-shaft is down below the 54 fm. level 4 fms. 1 ft.; the lode in this shaft is about 2½ ft. wide, producing a little ore in places. In the 54 fm. level, east of this shaft, no lode taken down since last reported; in the cross-cut, south at this level, there is no important alteration.—T. Rodda: May 11.

WHEAL ADAMS.—The operations in the new engine-shaft are being carried on uninterruptedly, yet the work is progressing but slowly, owing to the ground being very soft, and exceedingly troublesome, through the flookan vein crossing that part of it which we are now securing. No lode has been taken down in the 40 south during the past week. The lode in the end driving south, at the 28 fm. level, is split into branches, and is at present unproductive; but the north end looks more promising, and is producing saving work. The 18 fm. level, extending north on the western silver-lead lode, is opening tribute ground; this lode, as I have before observed, has been but partially developed, but it bids fair to be found more productive in depth than either of the lodes that have been discovered. The last parcel of ore, sold to Messrs. Mullins Brothers, were shipped last Saturday, the 8th inst.—J. Prince: May 11.

WHEAL CALSTOCK.—Since we commenced working in June last, on what is called the gossan lode, Pawley's shaft has been sunk 26 fms. deep to the first level; the shaft, the first part of the way, went through a large and beautiful looking gossan for about 10 fms., and carrying a flookan on its south part; at this point the gossan gradually separated from the flookan, which continued in the shaft as far as the first level. The 26 fm. level has been driven west of the shaft 55 fms., making the length of this level in all 120 fms.; the ground the whole of the distance has been most favourable for driving, being a soft white killas, with small strings and branches of ore running through it—the lode being composed of a large quantity of mundic, sugary-spar, and white iron, with copper and lead ore; at about 15 fms. behind the present ends, that part of the lode which appeared to have gone off in the shaft was again met with, and cut through, being about 3 ft. big, of a most promising character, containing quartz, mundic, rich-looking yellow ore, and a small quantity of white iron; this lode will be again cut through at 16 fms. west of this place, which is nearly completed. Our chief object is to drive on the 26 fm. level about 30 fms. further, when it will intersect a promising looking north and south (or lead) lode, considered to be the South Hooe lode being north of that of one; at this point it is intended to drive north on its course to cut the different copper lodes—seven having been seen, one only of which has been worked on, and that about 45 years since, when several hundred tons of copper ore were returned. Judging from the appearance of these lodes on the backs, presenting a rich-looking gossan and soft decomposed spar, we may expect the most satisfactory results; at the point we shall cut them, particularly as from their run, several of these lodes must have formed a junction with each other against the cross-course. Arrangements are being made which will greatly facilitate the workings, and enable the shaft to be carried down to a 50 fm. level. The cross-cut driving north, to the east of Pawley's shaft, at the 26 fm. level is in about 4 fms., and is driving to meet with the same lode seen in that level near the present end. The mine being situated near the navigable river Tamar, and within one mile of Cotehele Quay, the land carriage will be inconsiderable, however extensive the workings may become. —W. B. Collon: May 10.

WHEAL CARTHEW.—Yesterday I was in this mine; the lode for some time past has been small; it is now from 2 ft. to 3 ft. wide, composed of flookan, prian, spar, and small portions of lead, and rich spots of copper ore, which is not unfrequently seen in productive lead lodes. I have set to the men at 25s. per fm.; the ground is now a soft blue killas, and congenial for lead.—W. Penrose: May 7.

WHEAL TREHANE.—Philp's shaft is sunk 5 fms. below the 30 fm. level, where the lode is perpendicular; the water prevented us from sinking deeper at present, but expect to sink it again soon; the lode is large, and worth 8l. per fm.—price for sinking, 50s. per fm. A 35 fm. level is driven south 17 fms., which is near the boundary, and as deep as Wheal Trelawney. We have a good lode in the back of the 22 fm. level, which is now stoping, and the men are getting fair wages at 7s. 6d. per fm. The 35 fm. level is driven north of shaft 2 ft.—lode worth 7l. per fm. The 30 fm. level is extended 66 fms. on the course of the lode—the south end is holed to Wheal Trelawney—the north end is driven 9 ft. into the school-ground lode, worth 5l. per fm.; the stopes, in the back of this level, are looking well. In stoping the back of the 20 fm. level, near the north end, we discovered good bunches of rich ore in the gossan, which induced me to resume driving this level northwards, where the lode has been worth 15l. per fm.; the end is not so good at present, but it will pay well for driving. We have commenced sinking a new shaft 25 fms. north of the old one, and intend communicating it with the 30 fm. level, by a cross-cut, as soon as possible; this shaft will go down in the deepest part of the sett, and command all the workings on this lode within our boundaries. The Tamar Smelting Company purchased the parcel of ore sampled the 19th ult., computed 45 tons, at 19l. 13s. We have now on the mine dressed 15 tons of best, and 30 tons of gossan ore, with about 500l. worth, that might be got in order for sale in a short time, and at a trifling expense, if we had a small stream of water. Since I last reported, we have obtained a sett of two fields, belonging to a free school at St. Germans, for which we have paid a premium of 100l., and to give 1-15th dues. There is no doubt that these fields will enhance the value of this mine considerably. In consequence of the lode, for the last 25 fms. driving, taking a more westerly course, there is every probability we shall have 30 fms. in length at the 30 fm. level, in the school fields, and it will also give us a much more greater depth in Kelly's field than I last reported. Some people say this mine has a short run on the course of the lode. I admit there is five times the length of lode in a great many mines, but as they generally have heavy water charges to pay, I think the adventurers in the greater part of them would wear a different countenance at their general meetings, if they had a course of ore 66 fms. long, with a great probability of its continuing 100 fms.; and, particularly so, if they were told it could be taken away for less than 20s. per fm. P.S. A general meeting of adventurers will shortly be convened.—John Bryant: May 11.

WHEAL EMMA.—In the engine-shaft the ground is favourable for sinking; but the strata is of a very dark nature. The depth of shaft below the 22 fm. level is 7 fms. 4 ft.; in the end, driving east, at the 22 fm. level, the north lode is about 4 ft. wide, composed of spar, capel, mundic, and some spots of ore, and is somewhat improving going to hill; in the adit level, West Backwood, the lode is about 3 ft. wide, composed of spar, capel, and mundic, and the strata congenial for ore.—H. Choake: May 11.

## FOREIGN MINES.

ANGLO-MEXICAN MINES.—*Guanaxuato, Feb.* 20.—The operations subsequent to my last dispatch are as follows:—

| Week ending | Memoria. | Sales. | Profit. | Loss. |
|---|---|---|---|---|
| *Asuncion.*—Jan. 23 | $ 606 0 7 | $ 158 7 0 | —— | $ 526 5 1 |
| 30 | 612 0 5 | 216 0 0 | —— | 504 0 5 |
| Feb. 6 | 659 5 3 | 785 5 0 | —— | 266 2 9 |
| 13 | 638 6 6 | 1815 1 0 | $ 268 6 0 | —— |
| Total | | | | $ 1297 0 3 |
| Deduct profit | | | | 268 6 0 |
| Making a total loss on the four weeks of | | | | $ 1028 2 3 |

Total number of cargas sold, 260; average price, 89½ per carga.

The bold, but necessary, step I took in unwatering the pozo of San Casimiro will, I hope, in the end, repay us for the outlay; but this is not altogether certain—however, I have great hopes on the subject: at all events, the most prudent plan was to get the waters out, and so avoid all disputes with the owners.

*Sirena* affords us nothing at all this month.

*Haciendas.*—I am endeavouring to put Pastita on a footing similar to San Agustin—viz.: a tenancy for 5 years, at an increased rent; and, really, I have some hope of success.

*Finance.*—The accompanying statement shows an asset of $54 701.

*March* 26.—*Asuncion.*—The operations, since the date of my last letter, have not been encouraging; the falling off in the lode, almost as soon as the last bota of water was removed from the bottom of the pozo, was certainly unexpected, both by Capt. Parkman and myself, or indeed by any other practical person; but metalliferous lodes can rarely be depended upon, more especially the rich spots, or clavos, in the mine of Monte. Herewith I hand the results of the past month:—

| Week ending | Memoria. | Sale. | Profit. | Loss. |
|---|---|---|---|---|
| Feb. 20 | $ 669 2 6 | $ 1240 7 0 | —— | $ 48 7 0 |
| 27 | 640 5 11 | 1012 6 0 | —— | 134 2 11 |
| Mar. 6 | 439 6 4 | 927 7 0 | $ 24 1 1 | —— |
| 13 | 386 7 2 | 856 0 0 | 41 0 11 | —— |
| 20 | 470 6 5 | 889 3 0 | —— | 26 0 11 |
| Total | | $ 65 2 0 | | $ 209 2 10 |
| Less profit | | | | 65 2 0 |
| Loss on the five weeks | | | | $ 144 0 10 |

Total number of cargas sold, 700; average price, 87½ per carga.

*Hacienda.*—The board will be gratified to learn, that I have made a new bargain with Don A. Rocha, to let him have the hacienda of Pastita for five years, at an annual increase of $600—being now a rental of $1600, instead of $1000.

ALTEN MINES.—The following is the estimated produce for March:—

| Mines. | No. of men. | Tons ore. | Per ct. | Tons copper. |
|---|---|---|---|---|
| Raipas | 26 | 70 | 5½ | 4·02 |
| United Mines | 14 | 40 | 5 | 2·00 |
| Old Mine | 4 | 8 | 5 | 0·40 |
| Ryper's | 6 | 5 | 5 | 0·25 |
| Mancur's | 8 | 5 | 4½ | 0·22 |
| Cole's | 8 | 10 | 4 | 0·40 |
| Michell's | 6 | 12 | 4½ | 0·54 |
| Total | 72 | 150 | | 7·83 |

*Mining Report, from the 20th March to 91st April.*

*Raipas.*—Notwithstanding the favourable prospects of the several lodes at this mine, there is evidently a deterioration in the produce; and I fear that no improvement will take place before we are able to resume the usual summer operations. The accident which happened in the mine last autumn, together with the unusual severity of the winter subsequently, has proved a sad detriment to our usual mining operations; but we hope again to recover our former position as soon as the thaw takes place, when we intend to rebuild shaft No. 2, and resume the stopes in that part of the mine. Labouchere's lode, for some weeks past, has also experienced a falling off in the produce; it is, however, again improving. The 10 fm. level, on this lode, has been communced from Monk's shaft; it is not rich, but returns a small quantity of good purple and gossan ore, and, on the whole, presents unusually favourable prospects at this depth. Carr's lode is still fluctuating, but within the last week has materially improved, and we hope it will still continue to do so. We have now completed Monk's shaft to the 10 fm. level, and have also resumed one of the old workings, near the original No. 11 stope, where the appearance of the lode holds out a prospect of our being able to trace the course of the lode near the cross-course. We shall also make preparations for resuming some of the workings on the south-east lode, and fully expect, in the ensuing summer, to make amends for the falling off in the winter's copper production.

Several tons of ore of this and last month's produce, are still frozen so hard, that we find it impossible to remove it until the spring—the returns to the smelting-house will, consequently, be less than the estimates during the six winter months; but, during the summer, the former will, undoubtedly, exceed the latter in a like proportion.

*United Mines.*—The workings on Ward's lode are all profitable, and promise greater permanency than for some months past. At Woodfall's, the tributers are still successful, and on the whole they have entered into the spirit of the enterprise; which, during the last 12 months, has been reciprocally advantageous to the proprietors, as well as the workmen. We have now much larger stocks of halvans and ore for dressing, than at this time last year, and the summer's produce will thereby be augmented.

*Ryper's.*—During the last fortnight the prospects had still more deteriorated; but, within the last two or three days, a gradual and steady improvement has been perceptible, more particularly in the foot stope on the new lode, where the ore is greatly increased in quality as well as quantity—on the whole, the prospects of this mine are better than for the last three or four months.

*Mancur's* is also poor, but an improvement appears to be gradually taking place in the stope from the sink. In my next report I hope to be able to speak more satisfactorily.

*Michell's.*—The shallow adit is poor, but the lode is still large and regular; in the roof, stope southerly, some fair returns of ore are being made; we shall endeavour, if possible, to set some of the old workings on tribute.

*Cole's.*—The ore in the north stope is more confined; but the south stope continues equally productive, and still holds out the most permanent prospects. A considerable part of this winter's produce remains in the large heaps of smalls and halvans accumulated at the mines, and will be turned to account as soon as a change of weather will permit. About the middle of next month we hope to recommence the usual ore-dressing operations.—S. H. Thomas.

*Report from Capt. Monk, April* 22, 1847.

The following is a report of the mine, with the present prospects in view. In Solomon Kanges and partners' level, in the 10 fm. level workings, driving on Labouchere's lode, the ground presents a very favourable appearance, containing gossan, with some patches of purple ores in the roof, and producing about 3 tons of ore per fm. In Johan Keuti and partners' side stope, on Labouchere's, the lode is much improved since you saw it last, and is at present wearing a very kindly aspect, containing purple and yellow ores mixed together, and producing about 4 tons of ore per fm. In Ri's Petter Anderson and partners' stope, west of Labouchere's, the ore is at present in rather an unsettled state, though we still continue to get some good stones of purple ore from this place. In Johan Petter Leuki and partners' side stope, on Carr's, the lode is about 4 ft. in size, containing rich purple and yellow ores, mixed together, and, at the same time, wearing a very brilliant aspect, and producing about 5 tons of ore per fm.; the ground, however, is very hard, and on that account is retarding the progress of the mine considerably. In Arve Olsen and partners' roof stope, in the 10 fm. workings, the lode is about 5 ft. in size, though, at the same time, in a very disordered state, containing some rich purple ores, and producing about 3 tons per fm. In Daniel Christowen and partners' flat stope, in the shallow adit workings, the lode is about 3 ft. in size, containing purple and yellow ores mixed together, and producing about 5 tons of ore per fm. Upon the whole, things are not looking altogether in an unfavourable light; and I am inclined to think that the moment that we can get our new shaft in order, that we shall be able to realise a good profit from the whole of the workings in progress at Raipas.—Samuel Monk.

BOLANOS MINES.—No intelligence of any kind, regarding San Francisco and the other mines of the San Clemente district, has come to hand by this packet. All accounts of ores raised and reduced, costs and returns, &c., of the negotiation of El Bote, are likewise wanting; but the following are extracts from letters, referring generally to the condition and prospects of this last-mentioned mine:—

*From a Letter, dated 23d of March.*

The mines continue to yield abundance of ores, although, of late, their value has much lowered; but a better system having been adopted, both with respect to the extraction of the ores and the cleaning and picking them at the surface, I confidently expect a greater return, with less cost, than heretofore; and what is most encouraging is, that the ends of both levels on the vein continue to be driven in good ores; and the extraction being solely confined to the backs and levels of Guadalupe, without touching any of the bottoms, which can only be worked with safety when the next cross-cut reaches the lode, you may easily judge, that when these reserves are worked, that it will not be difficult to double the present extraction—and it appears the ores become richer in depth.

*From another Letter of the same date.*

I am happy to inform you, that last week the extraction of ores passed 2300 cargas, with only 100 paradas working on points yielding ores. The present week, although there is a feast day, will, I hope, give an equal quantity, without having augmented the workmen. In the shaft of San Fernando 2½ varas have been sunk in the three weeks of this month; and I hope to make good progress—as, having augmented the horses to the whims employed on the drainage, the workmen are thus able to work better, although, a fortnight since, a fresh stream of water was cut in the west wall of the shaft. Every effort is being made to finish, as soon as possible, the buildings that are still required, which I hope to do by the middle of May, in order to do away with the heavy expenses attending them. The sinking of the shaft of San Genaro continues favourably, although the ground it is now being sunk in is so loose, that it requires to be timbered as the sinking goes on. This, I fear, will retard somewhat this work. In the three weeks of this month 12 varas have been sunk; and, as soon as the Easter holidays have passed, if the shaft can be timbered entirely, I hope, by dividing the workmen into three sets, to be able to augment the sinking.

COPIAPO MINES.—*Copiapo, Feb.* 23.—*San Pedro Copper Mine.*—At San Pedro we have commenced sinking below the 24 fm. level, and have a very pretty vein of rich ore, about a foot wide; should this continue of the same size and quality until we reach a 34 fm. level, our prospects will then be of a very cheering character. In the 24 fm. level west we have still a good vein, about 9 inches wide—ore of not less than 27 per cent. We are now driving east at this level also, and the vein has improved a great deal in the last 6 ft.; it produces now about 3 tons per fm., but the ground is hard. I am in great hopes, however, that this will soon change for the better. The stopes are still producing a fair quantity of good ore; but, owing to our being a man short of our complement on the stopes for the whole of the month (January), we have not been able to keep up the produce. One man out of the small force employed on the stopes, as you may suppose, makes a great difference in the produce; however, he having now returned to his work again, I hope there will be a proportionate increase in the next month's produce.

*Checo Copper Mine.*—The winze sinking to the east of the Victoria shaft still looks encouraging—we have a vein 9 in. wide, of very rich ore, about 35 per cent.; should this continue, as we hope it will, we shall soon have some new stopes for our English miners to work on. The stopes in the back of the 20 fm. level, near Harman's shaft, continue to yield very good ore; the lode is not so wide as for some time past, but the ore is harder and richer—vein about 1 ft. wide, that will produce more than 35 per cent. I am only sorry that these stopes are so nearly concluded, when we shall have to depend almost entirely on any new discoveries we may make here. We shall, in a few days, commence the sinking of a winze in the large gossan, at the western part of the mine, as referred to in my last; and I have great hopes that, before long, I shall have something good here to report upon; this would make Old Checo wear a new aspect, for it is in perfect virgin ground.

*Pampa Larga Silver Mine.*—There has nothing new presented itself here in the last month, and in fact but comparatively little has been done; we have had the great annoyance of not being able to keep more than about half enough people to carry on the works in the mine; a great deal of this has arisen from the sickness that has so generally prevailed here, both amongst the natives and English; and, since many of the natives have got the better of their sickness, they have, without leave of absence, gone to the river, to join in the diversions of the carnival; this, we have been obliged to bear with, and not discharge them, on account of the great scarcity of labourers at this time, and they invariably seize those advantages whenever they occur. Out of more than 40 people, we have been many days with only 10 to 15 of them able to work. In the shaft we have had only two men working, instead of six, or the shaft would have been holed ere this; although the ground is exceedingly hard, we have only 3 ft. now to communicate, which will certainly be completed in a few days; we then intend driving two intermediate levels—one east, and the other to the west of the shaft. This will require 10 pickmen; and, as soon as the intermediate levels above-named are advanced a few fathoms, extra hands for stoping will be required. Nothing worth naming has been done on the stopes of the main vein in the last month—Harris, the English miner, who formerly worked there, having left the company's service; and two of the English miners have been occupied in building a wall round the "caucha," to protect the ore lying there. We have had two employed on the stopes of the Cachizo vein; they have broken out some good ore, and I see but little or no alteration as regards the size or quality of the vein.

| | |
|---|---|
| Silver ore raised since last reported | 6 tons. |
| Produce at San Pedro Copper Mine for January | 56 " |
| Ditto at Checo ditto ditto | 45 " |
| Total | 101 tons. |

The *Auricula*, with 500 tons of copper ore, arrived at Swansea on the 1st inst.

COLOMBIAN MINES.—The following are extracts from dispatches from Mr. W. Degenhardt, superintendent, to agents at Bogota, dated Marmato, Feb., 1847:—

*Cienpesos and Pantano Lodes.*—We can reduce with profit the mineral from both stations; and, should permission be granted by the Government for the exportation of the concentrated ore, a good profit will be made from the Pantano Mine.

*Lavadero Remains.*—In Nov. last our Lavadero remains gave nearly 24 dwts. fine gold per ton; and, as stated in my No. 15. still better results would be obtained, which will be proved during the present month; and I have little doubt of procuring from this class alone 10 lbs. fine gold monthly.

*Average Produce per Ton.*—I am sorry to see the produce per ton so low, but it does not consist in the poorness of the ore, nor the mixture of attle, which has not been so great as may be imagined. I have been, and am still, bringing the mine into a favourable state, in order that I may look forward to have a good source of available ores, for many years to come, on hand; but, by doing this, I am obliged to take ore away, from which the best part had been extracted in 1844—(in which year there was taken from the levels, 1217 tons; rises and sinks, 1241; and stopes, 9668: total, 12,126 tons). The ore left then would have given a good return if it had been taken out with the rest—and even now will pay for its cost, and leave a small profit. I, therefore, wish to take it out at once, as the longer it is left standing the more costly it will become, and I hope it will yield still better results.

*Cost.*—I still hold myself responsible to cover the cost, as I stated in my No. 3, being certain that the establishment can pay its expenses and leave a profit besides. If I only looked forward for one or two years, I would have acted differently, but I anticipate a time in which my brother's estimates and promises may be fulfilled. If certain of a constant supply of water for the mills, I would give you at least 36 lbs. fine gold per month. I have spent about $800 on the Acequias, which will be repaid in one month during the dry season, by the additional water which will be brought to the establishment by them. We have also nearly finished a new six-head stamping-mill, which will produce, with a monthly cost of probably much less than $100, about 2 lbs. of fine gold. In Pantano a floor has been made for a new mill, for which all the requisite timber has been brought down—the shed is nearly finished, and I hope to see the mill at work within three months. From this you will see that I have commenced, and nearly completed, various works, from which, you may rely on it, a profit will be derived in a short time.

*January Returns* consist of 1 ingot, and contain, by the reduction officers' assays, 42 lbs. 4 ozs. 19 dwts. fine gold; and 26 lbs. 11 ozs. 10 dwts. fine silver—being an average produce of 10 dwts. 3 grs. fine gold per ton, and an increase of 2 dwts. per ton upon last month's produce.

*Reduction Department.*—Several of the most important improvements have been made since we have adopted the blanket system of dressing, and every attention on my part shall be given to effect still greater ones; I have in view a plan of treating the ore by stamping very rough at first, through grates, and in stamp-pits, and to be dressed in the usual way—immediately after which, they will be re-stamped over splash-boards and blankets; and it shall now be proved, and the report thereon, with other most important information, will be laid before the board of directors.

*Reduction Report for December—Blanket Dressing.*—The experiments on dressing in the usual way, and with the blankets, at mills 3 and 4, were completed on the 12th inst. Capt. Carlyon conducted the experiment with the blankets, and Mr. Eichler that on the usual system—the former at mill 3, the latter at mill 4; great pains were taken by both parties, to obtain the best possible results. From the comparative view in the tables, it will be seen that the success of the blanket system of dressing may now be considered as fully established, as applied to the treatment of rough ores. The cost of stamping at mill 3, was $143 2½; and at mill 4, $95 2—there being a difference of $48 0½ in excess, at mill 3. This difference principally arose from the dressing of the ore deposited at the head of the Catch pits, which dressing was employed, in order to ascertain with certainty, what quantity of gold dust escaped the blankets. The whole quantity of gold dust thus obtained did not exceed 1 oz., and reckoning half of this as fine gold, will give little more than 1 grain of fine gold per ton; in future, therefore, this extra labour and cost may well be dispensed with. The result of the two modes of treatment represented in dollars would be as follows:—

| | |
|---|---|
| Mill 3, with blankets—produce, $1306—cost of dressing, &c. | $ 143 2½ |
| Mill 4, usual dressing— ditto, 988— ditto | 95 2 |
| In favour of the blankets | $269 7½. |

This amount in favour of the blankets, accrues upon 191 tons 3 cwts. rough ore, of rather poor quality. The reduction officer further says, on the 1st. of Feb., in reply to the superintendent—"That none but the poorest kind of remains be thrown away, shall have my attention as you desire; and allow me to add, that I fully concur with you, in the propriety of establishing this most important measure—for the admirable effect of the blankets as a means of dressing, is disclosing to us more and more the value of the Marmato pyrites, whether in the form of rough ore, or tails."

The mine report and summary of underground workings for the month of Jan., show, in a favourable light, the greater portion of the station worked by the company:—Ore raised, 860 tons; ground expended, in square fathoms, 101·24.

| | |
|---|---|
| *Profit and Loss for Dec.*—Returns, fine gold, 41 lbs. 4 ozs. 10 dwts.; fine silver, | $ 10,587 |
| 41 lbs. 3 ozs. 9 dwts. | 9,117 |
| Estimated cost | |
| Profit | $ 1,470 |

PACHUCA MINES.—The following letter, dated 31st March, has been received:—

The works of the company have been recently confined to the trials of San Pedro and San Guillermo. In the former we have been driving a level west, at the depth of 70 varas; also a cross-cut south, at the same level, and sinking the shaft, as I consider, seeing such a large lode, with ore thinly disseminated through it, that there is a great probability of finding ores of richer quality, and in greater abundance, at a deeper level. At San Guillermo the lode continues of the same promising character, as described in former

letters. The lode is very large, composed of quartz and goesan, with spots of ore throughout; and here I would also observe, that the depth to which we have arrived (41 varas) is not sufficient to prove the lode. The expenditure will henceforward be limited to these two works, and to two or four men, stoping west of San Pedro shaft, on the ore ground. There are now 140 cargas of ore on hand, and, when it is increased to 200, I propose to have it beneficiated on Maquila.—February expenditure, $921.

REAL DEL MONTE MINES.—The following are extracts from a letter, dated Mineral del Monte, March 31.—I beg to acknowledge the receipt of duplicate of your letter of 31st December (the original, with all the documents accompanying it, having been lost in the Tweed). Your letter of the 30th January is also received.

*New Engine.*—By the former letter, I notice that the directors have decided on ordering a new 85-inch cylinder engine for Acosta, and by the latter, that the machinery would be ready for shipment by the middle or end of March. This desirable information has enabled us to commence making preparations here for receiving and erecting the same. This being considered the best time of year for felling large timber, we lost no time in attending to it; and 36 pieces for rods, 13 in. square, have already been brought to the mine, together with timber for the bearers, cisterns, shears, spring-beams, bobs, &c. Capt. Skinfill will proceed at once to cut the ground for the cistern, and hitches for the bearers, and in all other respects to prepare the shaft for the reception of the larger pit-work. Mr. Artha has ordered all the stone for raising the bob-wall, &c., and every preparation is going forward to facilitate its speedy erection when it arrives.

*Mines.*—The San Andres, or 167 vara level, north of perpendicular shaft, on the Santa Brigida vein, has cut a part of the vein which drained the working of San Guillermo, below the Aviadero, and we have, consequently, been able to pursue the latter where the lode is 1½ vara wide, with a branch of smelting ore 10 in. wide, and the remainder good azogue. These workings have produced in the last four weeks 92 cargas of smelting ore, assaying 88 marcs, and 254 cargas of azogue, of 12 marcs per monton. This being in new ground, and the lode of a very promising description, I trust we shall get a great deal of ore from it. The 157 vara upper level, east of Dolores, on the Tapona vein, is still passing through much azogue ore, and produced in the last four weeks 436 cargas, assaying about 12 marcs; and this quantity might be considerably increased, but for the difficulty of drawing the stuff, the two malacates at Dolores being found insufficient for that purpose. The laborio of San Pablo and San Enrique continue to present a promising appearance, although the smelting ore in the stopes, west from the bottom of San Pablo winze, is not so abundant as it has sometimes been; in the bottom of the winze itself, however, there is a fine looking lode, from 2 to 3 varas wide, of azogue and smelting ore, the latter being from 8 to 12 in. wide, assaying upwards of 100 marcs per monton, and apparently widening as it goes down. These workings were hindered a week and a half in the beginning of the month, while the flat-rods in San Juan level were being completed and put to work, and the attle cleared from the bottoms. They are now, however, in a good course of working, and I expect a sensible and speedy increase in the returns. The produce from this place in the last four weeks amounted to 132 cargas of smelting ore, containing, per mine assay, 94 marcs per monton, and 963 cargas of 12 marcs. —The rods in San Juan level, alluded to, were put to work on the 9th inst., and, I am happy to say, go very smoothly, and keep the water with regularity; and, by this means, I believe we shall be able to sink 40 or 50 varas below the Santiago level. It is necessary I should here observe, that a large quantity of azogue ore, of an inferior quality, but which would pay well for returning, is at present put on the stulls, for the reason previously given, in respect to the ores from Tapona—viz., from the want of the means of drawing it to the surface; besides all this, there are several labores which would afford a profitable working, and some important works which ought to be carried on—such, for instance, as the Aviadero north, on Santa Brigida; a new winze below the same, north of San Guillermo; the 157 vara level east, on Tapona vein; a new winze below the same, in the ore ground; and the Aviadero east, toward San Ramon.

*New Steam-Whim.*—For the above reason, and seeing that the quantity of attle to be drawn at this shaft is not likely to decrease, and so prevent the drawing of ore, I have, after consulting the underground agents, and Mr. Artha, agreed to erect a steam-whim, between Dolores and San Cayetano shaft, which would command them both. For this purpose nothing, however, will be required from England, as we have on hand a serviceable 22-inch cylinder, condensing work, and main beam—the nozzle, sweep-rod, crank, fly-wheel shaft, and all the cage work, together with the working gear and pillars, to be made here, and with very little increase to the current expenditure. San Cayetano diagonal shaft is progressing satisfactorily, and 40 men are constantly employed in rising and sinking at five different points, and will be completed to the Santiago level in about three months; after which, a portion of the ores from San Enrique bottoms will be drawn through it—thereby saving great expense and trouble in carrying the same to Dolores to be drawn, and then carting it to San Cayetano to be dressed.

*Acosta.*—At this mine the new 10-inch lift from the Aviadero to San Enrique level, in San Pedro shafts, has been completed, and we are now preparing for another attempt to sink. San Enrique, east and west, continues in a promising lode, composed of blende and quartz. The assay of the ores does not exceed 4 mcs. In the western end there has lately been an increase of water, having quite drained the Aviadero level westward. The Aviadero, east of Santa Brigida, on the Acosta vein, has now been extended 45 varas from it, and still continues in a lode of 4 feet wide containing some azogue ores, assaying from 8 to 12 mcs. per monton. The same level south, on the Santa Brigida vein, which I mentioned in my last, had cut into a large vug, has again got into solid vein, composed of galena, blende, and blue metal. A branch of 6 in. wide assays upwards of 100 mcs. per monton, and a proportion of the remaining parts from 14 to 16 mcs. The lead ore assays about 20 ozs.; it has a promising appearance, and will, I trust, improve as we proceed southward. We have lately resumed the driving the Guadalupe, or 40 vara level, east, on the Acosta vein. You will notice, on referring to the map, that, at this level, a rich bunch of ore was found on the western side, which disappeared at the junction with the north and south lode, and where the vein appears to be disordered; our object, therefore, is to discover the main part of the lode on the eastern side. In the present end there is a branch, a foot wide, containing good pintas of ore. At Sacramento, the San Isidro level, driving south, is poor; the same level, driving north, is in a vein, 3 ft. wide, of azogue, intermixed with a little smelting ore, and is likely to produce a pretty large quantity.

*Rosario.*—At this mine nothing has been discovered since my last; the ley of the ores in the workings, below San Miguel level, has of late been rather low, but yet there is a fine and large lode going down, on which we propose now to sink a winze. We also intend sinking below San Guillermo workings, where the lode is also large, and composed of ore, containing 6 to 8 mcs. per monton. The raisings during the last four weeks have been increased; but for the inability to redruce the same at Sanchez, there being no mortero at that establishment, tierras, only can be reduced at present. The new stamps attached to Guadalupe steam-whim are in a forward state, and I expect will be put to work in a fortnight. You will no doubt have seen by the newspapers, an account of the revolution! in Mexico, which has been going on nearly all the last month, and which has had the effect of paralysing nearly all commercial transactions. From the danger consequent on the transmission of money, we have had great difficulty in procuring sufficient for the Rayas.—January expenditure, $74,029; returns, $68,799—loss, $5230.

UNITED MEXICAN MINES.—The following is a report on the state of the working of the Mine of Rayas:—

*Feb.* 19.—*La Purisima.*—A few ore dressers are still employed, on the same terms as formerly mentioned, in picking the rubbish extracted from this side of the mine. The workmen have been removed from the end of Concordia, no improvement having been observed in the lode at this level, and the same body at a higher point becoming more unproductive the more it increased in depth, and, consequently, the nearer it approached the level of Concordia.

*San Lorenzo.*—The usual number of workmen employed in this point have been following up the body of the lode on the north-west side of the road. The general produce of ore is of rather an ordinary quality, intermixed with a few bunches of good ley. The pit of Animas is yielding a fair quantity of common ore, which is spread over a considerable surplus, and is found principally in threads (which run through the quartz); and as these are narrow, the ores cannot be so highly dressed as is customary with other classes. Five pair of barmen are now employed by day, and an equal number by night.

*San Cayetano.*—Scarcely any ores have been extracted from the lower part of this working during the last three weeks, as it has become necessary to raise some dry walls, in order to proceed with security. The dry walls are in progress, but there is a still greater difficulty, as regards materials, experienced here than in San Lorenza. The ores extracted from the upper part of San Cayetano form the best classes of the actual produce of the mine; but these bear only a small proportion to the bulk remitted to the hacienda for reduction. Three pairs of barmen are employed by day only.

*Santa Ceci ia.*—In two weeks this level has been advanced 1·02 varas. Last week the workmen did not measure, as they had made very little progress. Having reduced the size of the advanced part of the level on the previous occasion of the measurement, they have been employed latterly in opening it to its proper dimensions again. The alteration in the lower part of the end, referred to in last report, seems to have been only a band running into the centre of the working; this has now been passed through, and the lode continues very hard. A change is gradually taking place in the general formation of the lode in the cross-cut, as it advances into this division of the middle body. The lode is more favourable for working than at the commencement of the cross-cut. A small quantity of water has been met with, but, at the same time, a diminution has been observed in the end.

*San Miguel.*—In following up the ores in Espiritu Santo, and the immediate neighbourhood, some bunches and threads of good quality have been extracted; and during the last three weeks there has been an increase of produce from this side of the mine. The ores are principally found in the upper parts of old workings filled with rubbish, which do not require such large walls to make them secure, as either San Cayetano or San Lorenzo, and where there is also sufficient material wherewith to raise the walls. In the end to the south-east of Malanoche, no improvement has taken place. Thirteen pairs of barmen are employed in San Miguel by day, and an equal number by night.

*Santa Toribio.*—No particular variation has been observed in this level since the last report. The price has been reduced from 850 to 840 per vara, and 9.05 varas have been driven in four weeks. There is now no point worked on joint account by "Buscones" that is worthy of notice on the present occasion. The general produce is of low ley, and many of the workmen, dissatisfied with the prices paid by the purchasers, have left the mine, to try their fortune elsewhere: consequently, there are fewer compos in the mine, and only a small extraction of ores, which will explain the falling off in the sales—coupled with the circumstance of the bonanza of La Luz Mine, where the purchasers meet with an abundance of good ore offered for sale. The water has been lowered nearly a quarter of a vara in a fortnight: four or five malacates work by day on the water, and three by night. On feast days six malacates work by day, and three by night also.

*March* 25.—*La Purisima.*—The produce of ore from the rubbish, thrown aside by the buscones whilst following up their investigations amongst the old workings, has now become rather inconsiderable; and, in consequence, the share of ore received by the dressers is sold by them at a price that scarcely induces them to continue their work.

*San Lorenzo.*—The quality of the ores extracted during the last month from the north-west side, has continued of an ordinary character, with the exception of a few bunches of good class that have occasionally been met with against the upper side of the lode; but these bunches have not formed a sufficient proportion to the poorer classes to render available for reduction the "tierras de labor." During the last few days, some better ores have been extracted from the south-east side of the old pit of Santa Marta. Six pairs of barmen are employed by day, and an equal number by night. In the pit of Animas, the ores are now rather scarce; and, although a small bunch of good quality sometimes appears in the upper part, the general produce is confined to narrow threads. Four pairs of barmen are now employed by day, and three pairs by night.

*San Cayetano.*—Sufficient security having been given to the roof of the pit of San Pablo, a smaller quantity of fair ore is being extracted from the south-east side thereof. A pillar of masonry is being raised in the pit of San Francisco, which will afford some facility in the extraction of a fair quantity of good ore, and also be the means of procuring hereafter a supply of materials for dry walls. The produce from the upper part of San Cayetano, continues of good quality; but without any increase in quantity. Six pairs of barmen are employed in San Cayetano by day, and two pairs are employed occasionally by night.

*Santa Cecilia.*—In the month of February this level was advanced only 2·63 varas, owing to the circumstances mentioned in the last report. The appearances of the lode in the cross-cut being more favourable than in the level, the workmen have been removed to the former, which they are now driving at 385 per vara, including all the expenses of powder, candles, &c. In the first fortnight 2·68 varas have been measured; some narrow threads, containing slight signs of ore, have been cut on the north-west side of the cross-cut. The three pairs of barmen that worked in the cross-cut by day, have been removed into the end of the level, where, however, they have not been constantly employed, as it has been necessary to take one or two pairs, to thrown down material for the dry walls and pillar in the lower parts of San Cayetano.

*San Miguel.*—The improvement in the workings on this side of the mine, referred to in the last report, continued until within the last 10 days, when a falling off, both in the quantity and quality of the ores, took place. The same points are being followed up as heretofore, without any variation having been made in the system hitherto pursued. The end, to the south-east of Malanoche, has been suspended for the present. Thirteen pairs of barmen are employed by day, and an equal number by night.

*Santa Toribio.*—Since the 6th of February, 13·63 varas have been driven in this level to the south-east, which is now advancing in the Partenencia of Garrapata. There is at present no appearance of ore in the end, but it is advancing in entirely new ground; and cross-cuts, to the lower part of the lode, may be opened hereafter, should the end prove unproductive. No variation has taken place in any of the points worked on joint account by buscones. The water has been lowered 1·10 vara in four weeks. The same number of malacates are at work as mentioned in last report—the only change being, that one more works by day, and one less by night. The high price of fodder is the cause of the expense of the mine being now so heavy; maize is at 8s¾ per fanega, and straw (of indifferent quality) 1½ and 1¾ rial per arroba.—G. R. Glennie.

*Guanaxuato, 22d February, and 25th March.*

*Feb.* 22.—*Mine of Rayas.*—I inclose Mr. Glennie's report of the state of this mine, to the 19th inst., and regret to say, that our prospects still continue of an unfavourable description. You will observe, from the annexed comparative statement of produce and outlay for the last four weeks, that the falling off in the sales has been very serious, with no immediate prospect of revival. Many of the buscones have, consequently, left the mine, and sought work elsewhere. The water has been reduced 8 in. since my last, and we hope now to gain steadily upon it. The hacienda ores have increased in quantity, but had fallen off in quality.

| 4 weeks ending | Picked ores. | ¼ amt. sales. | Outlay. |
|---|---|---|---|
| Jan. 16..... | Cs. 2370 ..... | $4,598 5 4 ..... | $ 16,666 0 5 |
| Feb. 13..... | 2531 ..... | 2,780 7 0 ..... | 17,479 0 0 |
| | Cs. 281 Increase. | $ 1817 6 4 Decrease. | $ 813 7 3 Increase. |

*March* 25.—I regret to say, that I cannot give a more favourable account than that in my last of the state of this mine, in which no change of any importance has taken place. The water is being gradually reduced at the rate of about 9 in. per week. I enclose Mr. Glennie's report, dated 25th March. The annexed statement will show the very low point at which the sales continue, and the necessarily great weekly expenditure of the mines, owing chiefly to the enormous prices of maize and straw. The hacienda ores have likewise decreased latterly, both in quantity and quality.

| 5 weeks ending | Picked ores. | ¼ amt. sales. | Outlay. |
|---|---|---|---|
| Feb. 13. ..... | Cs. 3388 ..... | $4,017 5 4 ..... | $22,000 0 5 |
| March 20. ..... | 3185 ..... | 3,596 4 0 ..... | $23,455 0 4 |
| | Cs. 203 Decrease. | $ 421 1 4 Decrease. | $ 1,449 7 7 Increase. |

*Feb.* 22—*Quicksilver.*—Since my last, I have purchased 40 flasks more of this article, containing 30 quintals. I have also received 40 flasks from San Luis, containing 3413 lbs.

*March* 25.—I have received the 100 bottles shipped per *Thames* (the Dec. steamer), but no further supply from San Luis; and, in the present state of affairs, can scarcely expect any. I purchased 60 bottles here, being all for sale, to prevent the stoppage of one of the haciendas.—W. Heath.

## WEST WHEAL JEWEL MINING ASSOCIATION.

The usual annual general meeting of shareholders was held at the offices, Old Broad-street, on Monday last, the 10th inst.

Mr. Herron in the chair.

The Secretary having read the advertisement convening the meeting, submitted the following DIRECTORS' REPORT.

It will be in the recollection of the shareholders, that a resolution was passed at the last annual meeting restricting the future operations of the mines principally to the Wheal Jewel and Tolcarne lodes. This resolution has been followed out by the committee of management; and, although the investigation on the copper lode during the past year has not been so successful as could have been wished, the expectations which were then entertained of the tin lode have been more than realised; and should there be a continuance of the same success during the ensuing year, the property of the company cannot fail to be much more valuable. Detailed reports will be read to you, from the committee of management, as well as from the underground agents; and as they enter fully into the operations which have been carried on since the last meeting, any remarks on the part of your directors are thereby rendered unnecessary. It will be perceived, by the financial statement which will be laid before you, that the assets of the company are more than equal to the liabilities, which will, no doubt, be considered satisfactory. The directors have the satisfaction to state, that the whole of the last call of 10s. per share has been responded to, with the exception of 10 shares—these have been forfeited, agreeably to the deed of settlement, and due notice thereof given to the party in default. The number of shares into which the company is now constituted is 3725. In reference to the settlement which the committee of management have made with the late purser, the balance due from him by the books of the company has thus been reduced from 215*l.* 8s. 2d. to 109*l.* Your directors are only reconciled to this arrangement on the ground that Mr. Cardoza is no longer in the service of the company.

From the statement of accounts, it appeared that the balance at bankers' petty cash, and balance due from late purser, was 403*l.* 8s. 5d.; calls, 1937*l.* 10s.; copper and tin ores sold, 8488*l.* 15s. 1d.; old materials, 25*l.* 2s. 10d.; balance owing Truro Bank, 143*l.* 7s. 4d.; together, 10,998*l.* 3s. 8d.—Creditor, by balance owing Truro Bank at last account, 1386*l.* 13s. 7d.; cost for 12 months, 7202*l.* 2s. 2d.; bills outstanding, 1998*l.* 16s. 5d.; lords' dues, 335*l.* 9s. 11d.; interest, commission, &c., 71*l.* 13s. 2d.; directors, secretary, printing, offices, stationery, &c., 27*l.* 3s. 6d.; allowed Mr. Cardoza, in settlement of his account, receiving of him 109*l.*—106*l.* 8s. 2d.; balance at bankers, 109*l.* 7s. 5d., and petty cash, 7*l.* 9s. 4d.; together, as above, 10,998*l.* 3s. 8d. From the statement of the cash assets and liabilities, it appeared that the assets amounted to 1535*l.* 15s. 5d., and the liabilities to 1406*l.* 7s. 3d.—leaving a balance of 129*l.* 8s. 2d. in favour of the company.

The following reports from the agents, Messrs. Wm. and John Richards, and underground captains, R. Johns and T. Bray, were also read:—

Since your last annual meeting, our operations on this lode have been rather limited, in consequence of its general poverty, but we have driven the 115 fm. level east 26 fms., through a lode averaging from 12 to 18 in. wide, but poor. The lode at present is 18 in. wide, of a more promising nature, and is now nearly under the ore ground in the 100; we, therefore, recommend its continuance. We have also a winze sinking in the latter level, now down within 5 fms. of the present 115 end—lode 18 in. wide; it produced ore 3 or 4 fms. below the 100, and we expect the ore is gone east, which the 115 fm. level will ere long prove. The 85 and 100 fm. levels east are driven within 12 fms. of the extent of the sett, and, being poor, are suspended; but we have several pitches working in the back of the said levels. The 100 fm. level west is extended about 40 fms.—lode generally small, with occasional bunches of ore, but, on the whole, rather poor. The 85 is extended west upwards of 80 fms., the latter part of which has been productive, though the end at present is poor and discontinued. We are sinking a winze in the 85 fm. level (now down 7 fms.), and just over the 100 end—lode 15 in. wide, orey, but rather poor; we anticipate an improvement by driving the said level west, as we have ore ground gone down in the 85, before the present 100 end, and have pitches working in the back of the 85 fm. level. The 70 fm. level is extended 90 fms. west, and has been productive; in the present end the lode is 6 in. wide, worth 8*l.* per fm., and we beg to recommend its continuance, as it is in favourable ground, and we are working pitches in the back of the said level. We expect to raise from this lode about 80 tons of ore per month, which will about cover the working cost on this lode; therefore we recommend its continuance, as we do not consider the 115 fm. level east, and 100 fm. west are sufficiently proved.

*Tolcarne Tin Lode.*—The 30 fm. level, west of the quarry shaft, is extended 37 fms.; the last 10 fms. has produced tin, and is likely to open tribute ground. The 12 fm. level west is extended west about the same distance, through good tin ground, and the end is now worth about 15*l.* per fm. A winze has been sunk 11 fms., about 10 fms. behind the said end, which is worth 20*l.* per fm., and, when communicated, will lay open good tribute ground. The adit level is extended about 35 fms. west, in tin ground, and about 9 fms. behind the present end a winze has been sunk to the 12 fm. level, through productive ground, and promises to yield a good quantity of tin. The 12 fm. level has been driven east of Quarry shaft 27 fms., and has gone through occasional bunches of tin, which are working on tribute. About 6. fms behind the said end, a winze has been sunk to the 30 fm. level, through good tin ground; the same is now being worked, and produces a fair quantity of tin. In conclusion, we beg to state, that the prospects of Tolcarne lode are generally very favourable, and likely to produce a large quantity of tin. We have commenced clearing the adit level west on Roselobby tin lode; and from what has been done by former workers at shallow levels, we anticipate some good may be done on this lode, if further prosecuted. We estimate that we have about 9 tons of tin now on the mine, which was raised to the end of March last, on which all cost is paid. All the copper ore raised to the end of March has been credited in the accounts.—Wm. Richards; John Richards.

We beg to hand you the following report of our operations in the past year. We have driven 10 ft. south in the 115 fm. cross-cut, to intersect Wheal Jewel lode, and have driven east on the same 26 fms.—the lode will average 18 in. wide; the last few fms. are looking more promising for ore. We have 18 fms. further to drive to intersect the little cross-course, and about 25 fms. to the boundary. Judging from the ground that we have opened in the back of the 100 fm. level, it will, when developed, set on a moderate tribute. The 100 fm. level, on the same lode, is driven west about 38 fms.; 15 fms. of this ground will average about half a ton of ore per fm. We have about 20 fms. further to drive to get under a good lode of ore, which has gone down in the bottom of the 85 fm. level, and which we have reason to believe will enable us to set tribute pitches—say, from 5s. to 6s. 8d. in 1*l.* We have a winze sinking in the bottom of the 100 fm. level, east of cross-cut, on Wheal Jewel lode—lode 18 in. wide, composed of spar, mundic, and peach; we expect to communicate the same to the 115 fm. level in about two months, when we shall have good air, and be able to drive the 115 fm. level with more speed. The lode in the winze in the bottom of the 85, west of cross-cut, on Wheal Jewel lode, is 18 in. wide, composed of spar, mundic, and peach, with little ore, 7 fms. down; when this winze is communicated to the 100 fm. level, we shall have good air, which will enable us to drive the 100 fm. level with greater speed. The lode in the 70 fm. level west, on same lode, is 9 in. wide, worth 7*l.* per fm.; we anticipate having a good lode in this level, after we get a little further through the western hill, as this lode has been improving for the last 6 fms. In the 12 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 20 in. wide, worth 12*l.* per fm.; this level is driven west from shaft about 38 fms. through tin ground—30 fms. of it worth 20*l.* per fm. We have a winze in the bottom of this level down 10 fms., which will average 20*l.* per fm. The winze that we have sunk in the bottom of the 12 fm. level on the same lode, east of Quarry shaft, averages for 15 fms. in sinking, 10*l.* per fm.; the stopes east of this winze are worth 20*l.* per fm.; the stopes in the bottom of deep adit, east of Prosser's winze, is worth 25*l.* per fm. In the adit end, west of Quarry shaft, on same lode, the lode is worth 12*l.* per fm. In the 12 fm. level, west of old sump shaft, on same lode, the lode is 18 in. wide, worth 10*l.* per fm.; we have about 10 or 12 fms. to communicate to the eastern end, driving from Quarry shaft, and when this is done, it will enable us to set more tin ground, either to stope or on tribute. In the 12 fm. level east of Reeve's winze, on same lode, the lode is 9 in. wide, worth 6*l.* per fm. We have about 25 fms. to the eastern boundary; when this ground is opened on, it will enable us to set tribute pitches at a moderate tribute. Our present prospects on this lode are looking much better than they were at the last annual meeting, and we have every reason to believe, that we shall look much better against another annual meeting.—R. Johns; T. Bray.

The Chairman observed, that although the Wheal Jewel copper lode was poor, compared with what they expected it would be, their tin lode was much better; they had already sold 4000*l.* worth in the past year, and he believed, from the discoveries made, there was more than 11,000*l.* worth in sight. If they went on so, they should not only pay costs, but have a handsome monthly profit. They had never met, for five or six years, without their accounts having shown a large deficiency, but on this occasion there was a small balance in their favour, and they should not require another call for 12 months under any circumstances.

Mr. Antony Harvey asked, what was the amount of the London expenses for the year stated at the last annual meeting, and what had they been for the past year; and the Chairman having explained that the former had been 827*l.*, and had been reduced by consent to 250*l.*, Mr. Harvey said, there was still room for further reduction, and made a motion to that effect, which, however, was not seconded, the general feeling being, that having consented at a general meeting to this sum, it was inconsistent and unfair to call for further reduction.

Mr. Bawden (a director) said, the saving in salaries, agency, &c., in Cornwall, had been 174*l.*, and in all 224*l.* in the year; and had this economy been practised from the commencement, they might have that day declared a 1*l.* dividend.

The report and accounts were then unanimously adopted, a vote of thanks to the committee of management in Cornwall was passed, and Mr. Wilkinson, a former director, having proposed himself as a third director, it was put to the vote, whether two only were not more desirable, which was decided unanimously in the affirmative. Mr. Herron, as director, having gone out of office by rotation, was again re-elected, and, a vote of thanks having been passed to the chairman and directors, the meeting separated.

## WHEAL ANDERTON MINING COMPANY.

The quarterly meeting of shareholders was held at the Royal Hotel, Plymouth, on Monday, the 3d inst., when the accounts since the preceding meeting were examined and audited, the several vouchers being produced.

T. W. Liscombe, Esq., in the chair.

The Chairman, in opening the proceedings of the meeting, referred to the accounts presented, showing a deficit of 400*l.* to 450*l.* beyond the balance in hand, irrespective of the returns for tin ore at surface, and in course of raising. It was, in his opinion, and which was concurred in by the adventurers present, desirable that the debts due on the mine should be at once liquidated.—The following reports were then read:—

*Wheal Anderton Mine, May* 3.—Since the meeting of the 21st January, we have completed the sinking of the engine-shaft to the 60 fm. level, and cut a plat; in doing which we proved the lode from the north to the south wall, which is 9 ft. wide, producing good tin work of a superior quality. In driving east 3 fms., we intersected the cross-course which has heaved the lode north, and from the size of the cross-course and convulsed state of the ground, we have not yet cut the lode to the east; but, from the present state of the strata (a blue firm killas), convinces me we are nearing it fast. This level has been driven 8 fms. 5 ft., and was set on Saturday last to four men, at 70s. per fm. We have driven west at the 60 fm. level near 7 fms., the lode averages 4½ ft., with very regular walls, and the last 2 fms. driving has been productive of some rich tin ore, and at present the lode is very good for about 20 in. to 2 ft. wide. I have set this level to drive by four men, at 60s. per fm. The 50 fm. level east has been extended on the course of the lode 9½ fms.; it averages 5 ft. wide, producing good stones of tin, but not rich throughout, although a more promising and regular lode cannot be seen. I have set this level to four men, at 6*l.* per fm. The 50 fm. level has been driven west about 10 fms., through a piece of orey ground, and the present end is still productive—this has been set to two men at 37s. per fm., but a cut down bargain. My reason for not putting more men, is to ventilate it from the 40 fm. level, as also not to hinder the tributers working the backs of the 50 fm. level, till they rise a little in the back, to get in a still (or floor to keep the deads up) to secure the ground as they open. A winze on the course of the lode at the 40 fm. level, by four men, to communicate with the 50 fm. level, set at 3*l.* per fm., for the purpose of ventilation and stoping the tin ground between both levels. I have, moreover, engaged men to commence the sinking of the engine-shaft to the 70, where I expect to have a large quantity of tin, judging from the improvement as we have gained depth. I have also set a smith's-shop, tin-house, and other requisite sheds, also the extension of the dressing departments. I presume the whole will not exceed 60*l.* expenditure. With reference to any details relative to our future prospects, Mr. Jehu Hitchins has inspected the mine with me on Saturday, and has kindly furnished me with a report, which I beg to hand to the adventurers present. I should also add, that the lode between the 50 and 60 fm. levels, now working on tribute at 6s. in the 1*l.*, is looking extremely well, and the men will get good wages for their enterprise. Two waggon loads of tin are now in Plymouth, waiting to be shipped, immediately I know to whom I must consign it. I have received the draft for the tin sold, amounting to 107*l.* 17s. 9d., which I have given credit for in my last account.—James Carpenter.

*May* 1.—A very few words will suffice at this moment to convey an idea of my opinion as regards the prospects of your mine, and its operations, as observed in my inspection of the same this day, in company with yourself. In the first place, there appears to be nothing doing above the 40 fm. level at present, where there have been some workings in the back and bottom westward, in a strong lode, not altogether undeserving of further trial; but this, to some extent, will be accomplished by the proposed winze, to be communicated in this, the western part of the mine, from the 20 to the 50 fm. level, of which I highly approve, as these, in connection with the western shaft already down to the 20 fm. level, will accomplish the almost absolute necessity of providing an escape in case of accident to the shaft, as also for the proper ventilation of the different workings, as the air with only one shaft must of necessity, and in summer more especially, be very contaminated. In the 50 fm. level west, there is a pitch in the back, working on tribute for tin, with a very promising lode indeed, and the men, no doubt, will make good wages at 6s. 6d. in the 1*l.*, the work now stamping proving very good, and the ground appears to me to be a continuation in the westerly run of the lode I spoke of as seen in the 40 fm. level. In the 50 fm. level east, after going through disordered ground for about 10 to 12 fms., there is a lode which, although now poor for mineral, is, nevertheless, kindly and promising. The 60 fm. level west is in a large lode, producing good work for tin; and eastward is still in the same disordered channel of ground as described at the 40 fm. level. I expect, however, this will be soon got through, and the lode beyond it reached, which, judging from analogy, I have every reason to confidently expect will be productive. Upon the whole, as to the appearance of the lode at the 40 and 50 fm. levels, before stated, and the cutting so fine, strong, and productive a lode in the shaft, between the 50 and 60 fm. levels, its continuance in depth to the 60, and the quality and quantity of tin ores raised and returned (being about eight tons altogether since the discovery, of which one lot of 44 cwts. sold for 49*l.* a ton, without being burnt), in so small an extent of ground taken away, are indications of not every day occurrence; so that I should strenuously advise the engine-shaft to be sunk to the 70 fm. level with all reasonable despatch, and levels east and west extended therefrom; the 50 fm. level, now the most westerly one, to be continued, both in that direction and the east; the 60 fm. level also both east and west—the doing all of which, as well as the other operations, both underground and at surface, so judiciously proposed by you to be forthwith carried out, can be accomplished at a cost very little exceeding the returns regularly to be made from the discovery so recently made. I would further add, that in case your lode is found to continue its size and richness at the 70 fathom level (of which I have scarcely the shadow of a doubt), it will then be necessary to apply a steam drawing-machine, as well as the stamps thereto attached, in order to keep up your returns in summer. There should also, by all means, be laid down a railroad in the 60 fm. level—the which, as well as other minor particulars, we have talked over, and you can better explain in person to the adventurers than I can in writing.—Jehu Hitchins.

*Abstract of the Accounts.*

| | | | | |
|---|---|---|---|---|
| 1847—Jan. 21.—Balance in purser's hands ..... | £41 | 0 | 6 | |
| Arrears of calls..... | 3 | 6 | 0 | |
| Call made 21st Jan., on 237 shares, 2*l.* per share ..... | 474 | 0 | 0 | |
| Tin sold, 2 tons 4 cwts. 0 qr. 4 lbs., at 49*l.* per ton ..... | 107 | 17 | 9 | |
| Balance due to purser on 3d May..... | 30 | 18 | 10 | —£657 3 1 |
| 1847—Cash paid on all the relinquished shares ..... | £42 | 2 | 6 | |
| January, February, and March labour cost ..... | 242 | 16 | 2 | |
| Merchants' accounts ..... | 302 | 1 | 6 | |
| Carriers and whim work..... | 43 | 9 | 5 | |
| Agency and expenses, postages, &c, ..... | 26 | 13 | 6 | —£657 3 1 |

A lengthened conversation ensued on subject of the operations of the mine, and the further capital which might be required, from which we collated that the quantity of tinstuff to be raised from the present workings might be taken at four tons per month. This might, it was true, be increased to 10 or even 40 tons; but he (Capt. Carpenter) must confess he was not so able as others, who professed to see through a solid fathom of ground. He believed the mine would not only pay its cost at an early period, but yield a handsome profit; yet he would not commit himself.—It was subsequently determined that a call of 2*l.* per share be made; whereupon, Mr. English wished to ascertain, whether the deficit, which appeared in making up the accounts, would not be met by the call contemplated? and, furthermore, what sett off would arise from the tinstuff in hand—or, if such was not sufficient to meet the coming cost?

Capt. Carpenter, in explanation, stated, that the call proposed of 2*l.* per share would only cover the present liabilities; at the same time, that he might observe, the whole of such were not payable at the present time—while the ores in hand were sufficient to meet the current expenses. He fully concurred with the opinions expressed by others in the course of the proceedings, that the mine should be left free from debt; and he doubted not but that it would henceforward relieve the adventurers from any charge—while, on the other hand, it would pay them a handsome return. He did not wish to put forward the mine by any imaginative ideas; but, having entertained the opinion, that by the prosecution of the workings, and carrying down the shaft, he would effect the object he had in view, he had only to congratulate the proprietors and himself on such having been happily arrived at. The quantity of tinstuff raised up to the present time, might be taken at eight tons—a portion of which was sold at 49*l.* per ton in Plymouth, and the remainder in course of dressing, which would return 40*l.*; a portion of this, however, was included in the accounts.—Mr. English having submitted, in case it should be deemed desirable, that his office in London should be at the service of the company gratuitously, the reports and accounts being transmitted thereto, such proposition was adopted with thanks.—A vote of thanks to the chairman closed the proceedings of the meeting, which adjourned.

Devon and Courtenay Consols.—At a general meeting of adventurers, held at the Central Hall, Plymouth, on the 7th inst., the statement of accounts was examined and passed, from which it appeared that the cost for February and March was 491*l.* 16s. 1d.—Creditor, by balance last account, 253*l.* 8s. 10d.; by calls, 507*l.*—together, 760*l.* 8s. 10d.: showing balance in favour of the company of 268*l.* 12s. 10d. A call of 10s. per share was then made, payable immediately; and it was resolved that Mr. Pearse be appointed the doctor to the mine, and that the pay-clerk be authorised to pay him up to this date. The following report, from Capt. John Job, was read:—The 30 fm. cross-cut, north from engine-shaft, is in 6 fms. 2 ft. In driving the above ground, we have cut three branches; the first is 8 ft. in from the shaft, and about 5 in. wide, producing good stones of ore, underlaying north towards the lode 18 in. per fm.;

the second is in 8 fms. 1 ft. 3 in. from shaft, underlaying south 28 in. per fm., and about 15 in. wide, composed of mundic, spar, and killas, with a leader of ore and mundic on the foot wall, about 3 in. wide; the third is in 5 fms. from shaft, underlaying north about 5 ft. per fm., and is about 8 in. wide, composed of spar and flookan, with some ore in the spar; the ground in the end at present, is a beautiful, clean killas, with water coming out of the end; and I consider we have not cut the lode, judging from the underlay of the lode cut in the cross-cut at the old shaft, as the lode there did not underlay but 8 in. to the fm. The lode in deep adit, on south lode, is 20 in. wide, composed of mundic, spar, and killas, with some ore; the ground is more favourable for driving, now set for 6*l.* per fm. The lode in shallow adit, on north lode, is now about 16 in. wide, composed of mundic, flookan, spar, and can, with some copper and lead ores; the ground is favourable, now being driven for 2*l.* 5*s.* per fm.: the end is in 77 fms., having driven 17 fms. since the last general report, which leaves about 30 fms. more to be driven, to arrive at the flat-rod shaft. The lode in flat-rod shaft, on north lode, is about 3 ft. wide, composed of spar, mundic, flookan, and killas, with some good stones of copper ore; since my last general report, we have had a good branch of ore nearly solid, for about 8 ft., sinking in the western end of shaft, varying in size from 8 to 15 in. wide, which is still standing, and can be taken down when the adit communicates with the shaft, and is worth about 16*l.* per fm.; the ore did not extend out in the shaft more than 2 ft.; there is about 9 ft. more to sink, to be at the depth of the adit, and some time in August there will be a communication.

KIRKCUDBRIGHTSHIRE.—A two-monthly meeting of adventurers was held at the offices, Birchin-lane, on Tuesday last—W. MOUNT, Esq., in the chair.—A statement of accounts was produced, showing mine cost for March and April, 228*l.* 0*s.* 1*d.* By four sales of lead ore, 630*l.* 0*s.* 4*d.*; former balance, 837*l.* 6*s.* 5*d.*—967*l.* 6*s.* 9*d.*—balance in favour of mine, 44*l.* 6*s.* 8*d.*: there are, however, accounts outstanding, not yet charged in costs, of about 550*l.*, besides current cost of May, &c.; on the other hand, about 31½ tons of lead ore were shipped, on the 4th inst., for sale at Holywell. A call of 10*s.* per share was made. The following report from Capt. J. Buzzo, was read to the meeting:—In presenting you a summary of the work done in this mine since last general report of 12th March last, and description of present prospect, I have the pleasure to state that Stewart's shaft has been sunk to the 40 fm. level, and that level extended west 3 fms.; in sole of which, as also in bottom of this shaft, we have discovered a branch of lead worth 10*l.* per fm. From its nature, and in consideration of the dip west of our other ore ground, we conclude this to be a new branch. We are now busy fixing railroad to bring the waggon to bottom, with a view to resume sinking this shaft, as also drive east and west at the 40 fm. level with vigour. The 30 fm. level, driving west, has intersected the caunter, 22 fms. from shaft, and is extended 5 fms. 1 ft. beyond this point; the lode in this end is 5 ft. wide, producing 1 ton of lead per fm. From said point, or junction, we have driven back east on the caunter 3 fms. 3 ft. 6 in.—this lode is full 6 ft. wide, and produces 2 tons per fm.; it forms an angle of about 30° with the main lode—is regular in its direction, and of considerable promise; we have commenced costeaning upon it eastward. The 20 fm. level is 16 fms. west of shaft; and having resumed driving this end with 6 men, we calculate on meeting the juncture in 5 or 6 fms. driving. The 30 fm. level east has been driven 30 fms. 1 ft. 6 in.—the last 20 fms. poor; and although the lode is not small or unkindly, yet we cannot calculate on any good being done here without a discovery. The same will apply to the 20 end east; notwithstanding we are still driving these ends. The lode in the adit end having passed through several slides, has become greatly deprived of its nature; we have, therefore, suspended this end, until a drier time of the season allows us to costean on back of the lode, and sink on it behind the adit level, before the slides, where we hope to see some good done. Keith's shaft has been sunk 5 fms. 1 ft. from surface, where we met the rock; the water is so abundant that we consider it ineffectual to push it till we have a second wheel, inasmuch as the shallow level is only 20 ft. from surface at this point. To relieve us, however, under these circumstances, we have considered best to rise (in back of the 30) in the junction, with a force of 6 men, where the lode is 8 ft. wide, worth 40*l.* per fm., and communicate to surface for ventilation—thus placing ourselves in a position to stope away the best part of our bearing ground immediately from it, bearing in mind that our railroad is fully competent to discharge all the stuff with perfect ease. Regarding our reserves, we calculate that we have 200 fms. in back of 30 west, worth 10*l.* per fm.; ditto, 90 fms. on ditto, worth 20*l.* per fm.—viz., from west end to end on the caunter; and, say 30 fms. in same backs, east of shaft, worth 10*l.* per fm.; showing total value of present available reserves of 4100*l.*; to which may be added our favourable position in opening out the 40 fm. level, where we have every right to expect corresponding resources. It appears, therefore, that we have opened up bearing ground, during the past two months, at the rate of 100 per cent. increase over the value then estimated. Hence the question arises, whether we had not better adopt the use of a crushing-machine as soon as possible, to economise the cost of dressing, as well as ensure dispatch, seeing we have a water fall of 20 ft., sufficient for this purpose, immediately on the flooring. It will be seen that our returns for the past two months but little exceeded 30 tons per month; we now expect to exceed 40 tons per month.

WHEAL CONCORD.—At a special general meeting, held at the offices of the company, King-street, Cheapside, on Tuesday, the 11th of May—the object being, as pursuant to circular, for the purpose of creating 1024 new shares, at 30*s.* per share; the present adventurers being entitled to the option of taking the said shares in the proportion of one new share for every old share—for the appointment of a finance committee and auditors, and on other business.—Mr. H. ENGLISH in the chair.—Mr. SNELL read the circular convening the meeting, as also the minutes of the preceding meeting.—The CHAIRMAN handed in a letter (he having been appointed one of the auditors of the company), stating that, in the absence of vouchers, and in consequence of errors appearing in the accounts, he could not pass the same; and further, requesting that measures might be taken for supplying the necessary documents and explanations, or another party appointed in his stead.—After some discussion, the subject was referred to the next meeting; in the interim, the attention of the purser and secretary being directed thereto.—The SECRETARY stated, that the meeting must necessarily be adjourned, from the circumstance of the non-receipt of Capt. Lean's report, which had been expected—a letter having been received from that gentleman, stating his inability to inspect and report on the mine until the 10th inst. He would suggest, that it be at once adjourned until that day week, more especially as the adventurers generally were given to understand no meeting would be held. He proceeded to read a copy of a letter addressed to Mr. G. W. Snell (the purser), requesting him to adjourn the meeting.—Mr. SNELL observed, it was at much inconvenience that he had come to town, so as to be present at the meeting; while the postponement for a week would be attended with serious cost to him: he, therefore, would suggest, that the adjournment be made to an earlier day, undertaking, in such case, to remain in town, for the purpose of attending the same. He (Mr. Snell) begged to state, that the letter, of which Mr. Crofts had read a copy, had never been received, or the purser would most gladly have acted upon it, and which would have saved the cost of time and money attendant on his visit to town.—It was, thereupon, moved and seconded, that the meeting do adjourn until Saturday, the 15th inst.; and thanks having been passed to the chairman, the meeting separated.

CALLESTOCK.—A meeting of adventurers was held at the mine, on Tuesday last, when a call of 2*l.* per share was made, to pay off the balance, and for the further prosecution of the mine. Sixty tons of lead ore were sampled on the same day—so that it is not probable any further demands will be made.

NORTH ROSKEAR.—By ore sold, 6755*l.* 14*s.* 6*d.*; cost for Feb. and March, 5704*l.* 15*s.* 7*d.*: leaves 1050*l.* 18*s.* 11*d.*; in purser's hand end Jan., 2004*l.* 18*s.* 7*d.* = 3055*l.* 17*s.* 6*d.*—Dividend, 1050*l.*; leaving a balance of 2005*l.* 17*s.* 6*d.* now in hand.—[By the notice to absent adventurers, which accompanied the above statement of accounts, we learn that the mine generally is in much the same state as when last reported on, and that the next accounts will give in a similar dividend of 15*l.* per 1-70th share.]

## ACCIDENTS.

*Ruby and Garlidna Mine.*—Two miners, named Bartle and Dunstan, were very seriously injured by the premature explosion of a hole.

*Cassop Colliery—Death from an Apparently Slight Injury.*—On Monday, as Michael Harrison, banksman, aged 49 years, was at work at Cassop Colliery, he received a slight injury of the thumb from the guard slipping, while in the act of taking a tub of coals out of the cage. This, on the following Monday, was followed by a swelling of the arm, and considerable pain in it, and the muscles of his neck, which eventually caused depression of the nervous system, from the effects whereof, he died on the 28th.

*Merthyr.*—An explosion of fire-damp took place in the colliery of Mrs. Luce, T. Waunwyllt, by which two persons, father and son, sustained dreadful injuries: the boy, a lad of 10 years of age, survived the accident only a few hours, spent in agony, and the father, T. Jones, who lives at Cae-pen-twmpin, is still alive, but slight hope is entertained of his recovery.

*Holly Hall Colliery, Dudley.*—J. Wainwright was injured by a fall of coal.

*Caponfield.*—T. Smith was killed by a fall of coal in Messrs. Bagnall's Colliery.

*Ozier Bed Colliery.*—J. Taylor was killed while working here.

*Rough Hills Colliery, Wolverhampton.*—While Patrick Duffy was at work with his son, a boy about 10 years of age, they were both suddenly taken ill in consequence of the damp in the pit, which, at the time they went to work, the pit seemed quite free from hydro-carburet. Duffy and his son were found in a senseless state in the pit; the father died shortly afterwards, but the boy ultimately recovered. The jury returned a verdict of "Accidental Death."

*Culwell Foundry, Wolverhampton.*—As a little boy, 9 or 10 years old, named J. Clarke, was working at the Culwell Foundry, some part of his cloths became entangled about one of the shafts connected with an engine at the works; he was dashed against a wall which was near, and so much injured as to die shortly afterwards.

*Oldbury.*—W. Smith was killed by a fall of coal in Mr. Chance's Colliery.

*Wolverhampton.*—While at his work, in Mr. Birch's Colliery, G. Macclesfield was seized with sudden illness, and almost immediately expired.

*Wingate Grange Colliery.*—J. Watson was crushed by a fall of coal.

*Harrowbarrow Old Mine—Fortunate Escape.*—Lewis Bennetto, while engaged in the shaft here, fell to the bottom, a depth of 84 ft., and was with difficulty saved from being drowned, there being 18 ft. of water in the shaft at the time; but the knocker line reached to the bottom of the shaft, of which he caught hold, and thus kept himself afloat until assistance arrived.

*Barnsley.*—J. Mankin was killed by a fall of coal at Messrs. Hopwood's Pit.

*Shotton Colliery.*—As W. Jefferson, jun., aged 11 years, was about descending the pit, his foot slipped, and he fell through the bars of the cage, and was killed.

## GOLD AND SILVER MINES IN CORNWALL.

### WHEAL SAMSON (ST. TEATH) GOLD, SILVER, AND COPPER MINES, AND THE GREAT ROUGH TOR AND BROWN WILLIE DISTRICTS.

SIR,—I beg, through the medium of your paper, to lay before the mining public a few facts relative to the discovery and opening of a large lode, containing gold and silver, in such quantities as will, provided its present indications be realised, present a new feature in the mining operations of Cornwall, and render this discovery an object of much importance. I have, during the past two years, been employed as the agent of Mr. Frederick S. Thomas, in inspecting with him, and for him, the many mines submitted to his notice, and worked under his direction; as also in minutely examining such districts as he conceived had not been sufficiently appreciated by mining adventurers. In the course of these surveys the north-east portion of Cornwall, embracing a line westward of the village of Altarnun, to the coast between Port Isaac and Tantagel, has come under our notice. My researches there have resulted in the taking up, and the opening of, "the Great Wheal Rough Tor," which was first brought to my attention as a locality for ironstone, but which has already afforded indisputable evidence of extensive deposits of copper; and also in the taking up of many very important setts in that neighbourhood, having the Rough Tor lodes, and other parallel lodes of the same extraordinary promise, running through them. Upon these setts I expect very shortly to be instructed to give a detailed and separate report. They are embraced within a district which has hitherto been neglected, but which I firmly beleive will be found to exceed in richness, as far as its deposits of copper are concerned, any other in Cornwall and Devon. The lodes in this district are more clearly defined, having richer surface features than any I have yet seen, and the country is precisely that which a miner would select as a favourable locality. These copper lodes are not, however, the especial subject of this letter;—my object is to show the westward course of these lodes, as pointing to the important silver mine now opened, and called "Wheal Samson." The character of the country in the Rough Tor and Brown Willie districts partakes of bold masses of granite, with extensive fields of killas lying on their declivities, and these fields of killas traversed by extensive elvan courses and dykes. The Rough Tor lode occupies the junction of the granite and the killas, and other parallel lodes (of which I have already discovered several) lie entirely in granite or killas, as they take their positions to the north or south of this important copper mine. As you travel westward, the run of the Rough Tor lodes is crossed by extensive elvan deposits, and, westward again of these elvan deposits, there is a complete change of country; you then enter the argentiferous district—to which I especially refer, as the locality of "the Wheal Samson Gold and Silver Mine." In this district there is a very extraordinary combination of elvan, trappean rock, micaceous granite, greenstone, and killas, which appears to account for the absence of the ordinary metals, and for the presence of silver and gold. I am particularly cautious in introducing this report, because I wish to relieve myself of all apparent presumption, in writing upon *a lode of silver and gold.* I have never yet seen *a silver lode.* I have seen several lead lodes, carrying large per centages of silver; but, I candidly confess, I have never before seen a lode existing in a channel of ground where there is such a combination of primary deposits, as the Wheal Samson lode; nor have I ever seen ores of so rich a quality. I do not, from experience, know what ought to be the surrounding property of a silver lode; in this respect, I believe I am on a par with all miners, who have not worked in, or visited, the foreign silver mines: the Wheal Samson is an east and west lode, and, as silver (where we have cut a course of ore) is the largest product, I consider it is *a silver lode.*

I have, from my infancy, diligently studied the properties of copper, tin, and lead lodes; and I have endeavoured to make myself acquainted with the strata and the channels of ground which are congenial for the production of these various minerals, as also of any surrounding deposits which may be considered to have an influence, beneficial or otherwise, thereon; it is universally admitted, that each quality of ore seeks to reside in its own peculiar and congenial stratum. I was, therefore, led to infer, that where the more precious minerals were found, there would also be found, as their accompanying properties, a character of country, partaking of, and exhibiting other and richer, influences, than those which are found in connection with lodes of copper, tin, or lead—it being a common miner's expression, that lodes can only *live,* or *become productive,* in their own peculiar and congenial strata of ground.

In the course of my researches upon the north-east coast of Cornwall, I had, in several instances, received from the hands of miners, residing in the neighbourhood, stones of silver ore, containing upwards of 600 ozs. of silver to the ton, as, also, considerable quantities of gold. These stones were all evidently obtained from the coast—they were all rounded by the action of the water, and I was informed they had been obtained in the neighbourhood of Port Isaac, and that lodes of the same quality had been discovered in the cliffs. To one of these lodes in particular my attention was directed—a lease of the property was obtained—the lode was driven upon at a convenient depth from the surface of the cliff—and the result I shall now proceed to give.

The Wheal Samson lode has its western termination of many branches in the cliffs, at an estate called Bound's Cliff, in the parish of St. Teath, near Port Isaac. At this place, the cliffs rise nearly perpendicularly to the height of about 500 or 600 ft. above the level of the sea; and the branches of the lode are clearly perceptible, cleaving the cliffs from the top to the bottom, underlying into each other in depth, and taking a course by which they will intersect each other at a distance inland, computed to be about 50 fms. The country, intermediate of these main and outermost branches, or lodes, is crumbled to fragments, from numerous smaller leaders, or veins, running into, and underlying into, these larger branches—all of which are tending to the one point of junction before alluded to. Our present operations have been to drive upon both these main and outermost branches, or lodes, in order to obtain their run and to test their qualities. Upon the northern branch, we have driven a level of some fathoms, entering the cliff at about 20 fms. from the surface. Throughout the whole driving, we have broken ore; samples of which have been assayed by Messrs. Johnson and Co., of Hatton-Garden, and have produced—

No. 1.—Copper, 9½ per cent.; silver, 340 ozs. in the ton; gold, 11 dwts. 12 grs. in the ton.

No. 2.—39 ozs. 16 dwts. of fine silver in the ton; 11 per cent. of pure copper.

These assays are from portions taken from different sides of the lode. I am now about to send a quantity of about a ton of ore, which will give the average quality of the lode. The gold, I believe, resides chiefly in the sparry portion of the lode, which is of a peculiarly rich character—a few specimens of which I shall also send to London. This branch, or lode, is regular and well formed, and, wherever the surrounding branches drop in, it always makes rich bunches of ore; but as yet we are only driving near the surface, for the purpose of ascertaining its course, and we cannot expect the ore to be continuous. The southern lode, or branch, is a very large and well-defined lode. In consequence of the crushed state of the cliff, we could only conveniently enter this lode—at least, for early experiments—at the depth of about 15 fms. from the surface; it is above 3 ft. wide, carrying regular walls, and is composed of a very soft grey flookan, full of little threads of silver and silvery mundic. Upon this lode we are now driving, in order the more speedily to arrive at the point of junction, and we have a right to expect some most extraordinary results, when these lodes, and their intermediate branches, fall in. The conveniences for working this sett are very great; an adit can be taken up, and driven on the course of the lode from the sea-shore; this will give backs, and an opportunity of working, without any machinery, to the depth of from 80 to 100 fms. from the surface; and, after that, water-power can be obtained, to put the mine to any deeper levels, if required.

I hope to gain much experience in witnessing the development of this mine, and I consider it well worthy the attention of miners and geologists. All that I can say is, the lodes are visible in the face of the cliff—they are bold and beautifully-defined lodes; the inland junction of the two lodes, and their intermediate branches, to which we are driving, is equally apparent; the quality of the ore is encouraging, and already ascertained by that which we have broken, which has been assayed, and of which I shall send a further quantity, to speak for itself. I must leave every person to form their own opinion as to the result—but, I can only say, it would be contrary to all experience, and to reason, to doubt, but that, where these lodes and branches run together in their courses, and fall together in their underlie, there will be a most important deposit of the same quality of mineral as we have already met with at the extremity of the lodes or branches. I cannot see a doubt of an abundance of ore, obtainable at a cheap rate; the assay gives a value of from 100*l.* to 150*l.* per ton. No person can presume to name, nor to limit the quantity; the result appears too overwhelming to contemplate, but the features are precisely as I have given them, and people must see it themselves, and draw their own conclusions.—JOHN SPARGO: *Dowgate, May* 10.

## STATISTICS OF CORNISH MINES.

The following are particulars of a few of the mines in St. Just, which will be perused with interest, as evidence of the satisfactory returns making by some of the mines in that locality:—

| | | MINES PAYING AS FOLLOWS:— | | |
|---|---|---|---|---|
| *Sh.* | *Mines.* | *Per Share.* | *Div. per Annum.* | *Purchase.* |
| 1624 | Balleswidden* | £18 | £3 | 6 years. |
| 128 | Wheal Spearne | 75 | 12 | 6 years 3 months. |
| 120 | Wheal Bal | 20 | 4 | 5 years. |

* I may also state, that Balleswidden has seven working engines, and about 700 people employed on the mine—being considered a very lasting mine.

## NEW PATENTS.

I. Baggs, Holford-street, Holdford-square, Pentonville, Middlesex, for certain improvements in the production of artificial heat.

J. Fielden, Esq., Waterside, Todmorden, Lancashire, for an improved mode of laying and pressing cotton, silk, wool, flax, and other fibrous matters, into cans, baskets, boxes, or other depositories.

A. Bryant, Heavitree, Devonshire, gardner, and R. Tothill, of the same place, surgeon, for improvements in preparing, constructing, and draining land, and an improved implement, or implements, to be used therein.

W. Norman, Paradise place, Pinsbury, Middlesex, cabinet-maker, for improvements in the construction of extending, or dining, tables.—*Mechanics' Magazine.*


MINING MATERIALS FOR SALE.—TO BE SOLD, BY PUBLIC AUCTION, on Friday, the 28th day of May inst., by Mr. PRYOR, at PORTREATH, in the parish of Illogan, a quantity of MINING MATERIALS, consisting of an oak water-wheel, 36-ft. diameter, 23-in. breast, cast-iron sockets, with crank, blocks, gudgeons, saddle, &c., one 9-ft. 8-in. pump, two 6-ft. 8-in. ditto, eight 9-ft. 9-in. ditto; two 9-ft. 10-in. ditto, one 6-ft. 6-in. door-piece and door, one 6-ft. 8-in. bucket door-piece and door, one 7-ft. 7-in. working barrel, one 6½-ft. 6-in. windbore, one 8-ft. 10-in. wood matching-piece, one crab winch, sundry bars of iron, whim rope and lashings, smiths' bellows, anvil, and vice, smiths' tools, sundry plates and tape, brasses, flanch bolts, &c., and various other articles suitable for mining purposes.

The above materials are confidently recommended to the notice of mine adventurers and others, and the whole will be peremptorily sold.—Dated Comford, May 12, 1847.

MINE MATERIALS FOR SALE.—POSITIVE AND UNRESERVED SALE.—To be SOLD BY AUCTION, on Monday, the 31st of May, at Eleven o'clock in the forenoon, by Mr. FRANCIS PRYOR, at North Downs Mine, in the parish of Redruth, the undermentioned

MINE MATERIALS—VIZ.:

A 42-in. cylinder STEAM-ENGINE, 9 ft. stroke in shaft, with boiler complete; 189-ft. 10-in. pumps; 1 6-ft. 15-in. ditto; 1 9-ft. 7-in. ditto; 1 4½-ft. 9-in. ditto; 2 9-ft. 9-in. windbores; 2 7-ft. 9-in. ditto; 1 10-ft. 9-in. working barrel; 1 9-ft. 9-in. ditto; 1 6-ft. 10-in. door-piece; 1 9-ft. stuffing-box and gland; 1 9-ft. 7½-in. plunger pole; 1 9-ft. H-piece; 1 9-ft. top door-piece; sundry staples and glands; flat-rod sheaves; horse whims; whim chain; large beam, scales and weights; large cistern; a quantity of launders, with stays; water barrels; smith's anvil; mandrill; smith's chest, &c. &c.

The whole of the above will be positively sold to the highest bidder; and the Auctioneer begs to call the attention of mine agents and purchasers of mine materials generally to this sale.

Also, to be sold by private contract, a 70-in. CYLINDER STEAM-ENGINE, with brass air-pump, bucket, and three boilers, about 33 tons, now at South Towan Mine, in the parish of St. Agnes.

For further particulars, apply to Messrs. Hocking and Loam, Engineers, Redruth; or to Mr. PRYOR.—Dated Comford, May 12, 1847.

SIXTY AND THIRTY-INCH CYLINDER STEAM-ENGINES for SALE.—To be sold, by private contract, a 60-in. cylinder STEAM-ENGINE, 8-ft. stroke, now at STRAY PARK MINE, in the parish of Camborne. Also, an excellent 30-in. cylinder STEAM-ENGINE, 10-ft. stroke in cylinder, and 9 ft. in the shaft, with a boiler about 10 tons, spare pipes, &c., complete, at WHEAL KALE MINE, in the parish of Phillack. This engine is quite new, and was manufactured by the Messrs. Harvey, Hayle Foundry.

For particulars, and to treat for the same, apply to William Vawdrey, Esq., Penpol House, Hayle; or to Mr. Francis Pryor, Mine Broker, Auctioneer, and General Agent, Comford, Gwennap.—Dated Comford, May 12, 1847.

PANTDRAINIOG QUARRY SLATE COMPANY, Bangor.

Registered provisionally, pursuant to the 7 and 8 Vic., cap. 110.

Capital £40,000, in 2000 shares, of £20 each.—Deposit £2 10*s.* per share.

DIRECTORS.

JOSEPH LAWRENCE BUTLER, Esq., 1, Dale-street, Liverpool.
JOHN FOWLER, Esq., Rodney-place, Clifton, near Bristol.
ISAAC JOHN HORLOCK, Esq., Rocks, Marshfield, Gloucestershire.
HENRY BIRCHFIELD SWABEY, Esq., Great Cumberland-st., Hyde-park.
(With power to increase their number to seven).

BANKERS.

Messrs. Charles Hopkinson and Co., 2, Regent-street.
Messrs. Puget, Bainbridges, and Co., 12, St. Paul's Churchyard.

SOLICITORS.

Messrs. Richardson, Smith, and Sadler, 28, Golden-square, London.

SECRETARY—Mr. John Henry Murchison.

*OFFICE—19, ESSEX-STREET, STRAND, LONDON.*

This company is formed for the purpose of working the Pantdrainiog State Quarry, in the parish of Llanllechid, Carnarvonshire, the proposed purchase of which can be effected on terms most advantageous to the company.

The slate from the Pantdrainiog Quarry is of the pure Bangor vein, and of the finest quality and colour. The quarry is situate about five miles from Bangor, and is a portion of an estate covering an area of about 39½ acres. The great Holyhead road passes through this property and connects the quarry with the wharf at Garth Point on the Menai Straits, and also with the Chester and Holyhead Railway, which crosses the turnpike road, at a point about three miles distant, the proximity to which will enable the company to convey slates into the Liverpool, Manchester, and Midland markets, with a punctuality and despatch that cannot now be attained through the medium of shipping.

The quarry, upon which a large sum has been already expended, has been opened for 20 years; *and there is at present about* 80,000 *tons of marketable slate to be obtained from the metal now uncovered.*

The property is held for a term of years, which will expire in 1903, without any royalty, and upon exceedingly favourable terms.

Parties desirous of taking the cancelled shares, may apply personally till the 15th day of June next, to any of the following gentlemen:—in London, to the secretary, at the office, No. 19, Essex-street, Strand; to Messrs. Richardson, Smith, and Sadler, 28, Golden-square; or to Mr. James Lane, mining agent, 75, Old Broad-street, City; in Liverpool, to Messrs. D. and J. B. Nelson, to Messrs. S. R. and R. Healey, or to Messrs. Sudlow, Brothers; in Manchester, to Messrs. Cardwell and Sons, or to Mr. Augustus Hahn; in Birmingham, to Mr. W. H. Collis; in Bristol, to Mr. Henry Dayrell, Clare-street; and in Exeter, to Mr. R. Tripp, 12 and 13, High-street.

Prospectuses, with the engineer's report, and engraved plans of the quarry, may be had on application at any of these addresses; and at the office of the *Mining Journal,* 26, Fleet-street, London.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

HOT-BLAST.—The NEW METHOD of HEATING AIR for BLAST-FURNACES (which has been PATENTED by Messrs. DIXON and BUDD), is now in ACTIVE, and most successful, WORKING at the YSTALYFERA IRON-WORKS, near SWANSEA, where it has been applied to six furnaces.

The plan is free from complication; the heating stoves, through which the air-pipes pass, are built adjoining the furnace; the flame of the furnace itself is drawn through the stoves by a stack, and the air thereby heated without any expense of fuel or labour.

The patentees, being ironmasters themselves, know that no saving in first cost, coal, or labour, would be considered by the trade as a compensation for frequent repairs. They also know that in many instances the whole benefit of the hot-blast process, and in some instances more than such benefit, has been swept away by the cost and irregularity attendant on the repairs of the apparatus. But they can assure the trade that their apparatus is not liable to get out of order. At the Ystalyfera Iron-Works the hot-blast pipes that were put to work in October, 1844, are still at work and in good repair. They believe that there is nothing in the whole experience of the trade equal to this duration; but more than this, they are sanguine that where their improvements are carried out under their instructions, the stoves will last longer than the furnaces. At the Ystalyfera Iron-Works, near Swansea, six furnaces may be seen in operation, the blast being perfectly heated to the point of melting lead, by the plan of the patentees applied to five heating stoves. The dampers on the stacks afford the means of moderating the temperature, whilst the doors in front give a perfect command of the stoves, as the draft can be reversed, and a current of cold air introduced at a moment's notice.

The patentees now introduce their improvements to the notice of the Iron Trade, with the confidence arising from continued and successful practice. They preferred the delay of waiting until they were in this strong position, rather than to call the attention of the trade to their plans, whilst they were in a state to which all practical men have a well-grounded aversion—viz., that of an experiment.

The patentees confidently assure the trade that their patented improvements possess the following advantages:—

1. The first cost of erecting the apparatus is considerably less than of that usually employed.
2. The liability to get out of repair is much less.
3. The temperature of the blast can be preserved higher and more equal.
4. There is no cost of coal or labour—neither being required.
5. The working of the furnace is not at all interfered with.
6. The stoves can be readily cooled down without derangement of the apparatus, when cleaning or repair is required.

As the benefits arising from the adoption of the plans of the patentees amount to several shillings a ton of iron made (a most important consideration in these times of competition, especially where large quantities are made weekly), besides great comfort and regularity, the patentees respectfully invite the attention of the trade to the subject. In order to ensure an early and extensive use, they have resolved on making a very moderate charge only for their patent right.

As the hot-blast apparatus at present in use, requires such frequent renewal and repairs, opportunities will occur in every iron-works, within a short period, of introducing the plans of the patentees without any, or with only a small additional, charge as dead outlay.

The patentees, therefore, congratulate themselves on being enabled to present to their brother Ironmasters a plan by which all the benefits of the hot-blast process may be secured, free from the hitherto great drawbacks of current expenses and repairs. They have not attained this end without great cost and perseverance, and they look for a liberal support from the trade, now that they present their improvements in the manufacture of iron, free from all the doubt and risk of an experiment.

Every information will be afforded to intended licensees by J. Palmer Budd, Esq., of Ystalyfera, near Swansea, who will, if necessary, send an experienced person to superintend the construction of stoves, and the successful carrying out of the plan.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY,
26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

| Age | Sum. | Prem. | Year. | Bonus added. | Bonus in Cash. | Permanent reduction of Premium. | Assured may Borrow. |
|---|---|---|---|---|---|---|---|
| 60 | £1000 | £0 3 4 | 1837 | £217 15 1 | £109 0 11 | £16 0 4 | £445 0 0 |
| | | | 1838 | 192 3 0 | 67 1 4 | 13 10 2 | 395 11 1 |
| | | | 1839 | 165 11 10 | 74 1 9 | 11 3 1 | 346 2 3 |
| | | | 1840 | 116 7 6 | 54 0 10 | 7 18 10 | 296 13 4 |
| | | | 1841 | 111 6 6 | 49 10 0 | 7 10 4 | 247 4 5 |

The division of profits is annual, and the next will be made in December of the present year.

F. FERGUSON CAMROUX, Secretary.

# Current Prices of Stocks, Shares, & Metals.

*STOCK EXCHANGE, Saturday morning, Eleven o'clock.*

Bank Stock, 7 per Cent., 191
8 per Cent. Reduced Ann., 86 5/8
9 per Cent. Consols Ann., 87 6/8 7
3 per Cent. Annuities, —
3½ per Cent. Ann., 87 7/8
Long Annuities, 9 6
India Stock, 10½ per Cent., 242
3 per Cent. Consols for Acc., 87⅛
Exchequer Bills, 1000*l.* 2d., par 1 pm.

Belgian Bonds, 4½ per Cent., 91
Dutch, 2½ per Cent., 57⅛
Brazilian, 5 per Cents., 83
Chilian, 3 per Cents., 51½
Mexican, 6 per Cents., 20 ⅛ ⅜
Spanish, 5 per Cents., 22½
Ditto 3 per Cents., 34
Portuguese, 5 per Cents., 83
Russian, 5 per Cents., 109½

MINES.—The mining share market has been rather heavy this week; although several transactions have taken place, still they have not been of any great amount to create much business. In some few particular mines there has been a demand for shares; but even that has been of a limited character.

North Roskear account meeting was held on Monday last, when a dividend of 15*l.* per 1-70th share was declared, reserving a balance of upwards of 2000*l.* in the purser's hand. By the report, presented at the meeting, it is assumed, from the present prospects of the mine, a similar amount will be paid at the next account.

It is stated, in the Great Devon Consols, that a most important discovery has been effected in Wheal Josiah, and that the improvement is daily progressing. In Plymouth, Wheal Yeoland, a tin mine in Buckland, a short distance from Tavistock, a valuable discovery has been made there also—the lode being worth 100*l.* per fm. for tin. Ryalton and Trewallack, two lead mines in the locality of each other, are also reported to have improved. In Carn Brea several transactions have taken place, and buyers are to be found at present quotations.

" Shares in the following mines have changed hands—viz.: South Tamar, Ryalton, Carn Brea, Tremayne, Treleigh, Wheal Franco, Kirkcudbrightshire, Wheal Trelawney, Alfred Consols, Plymouth Wheal Yeoland, Herodscombe, Herodsfoot, Wheal Mary Ann, Trehane, Condurrow.

Last week we adverted, in terms of ridicule, to a statement which had been industriously circulated, that a mine, near Hayle, would postpone the payment of a long-promised dividend, in consequence of 1000*l.* worth of tin having been stolen from off the mine. We have since learned, from good authority, that no promise of the dividend had been made by the agents, and that the estimated value of the quantity of tin stolen was an exaggeration, unsanctioned by the purser. We have now much satisfaction in stating, that the mine is in a position of accomplishing the expectations of the agents in the early payment of a 5*l.* dividend; and that an extensive system of robbery has been detected—the suspected parties, with the exception of two, who have absconded, are now under a course of examinations before the magistrates of the district.

In the foreign share market little has been done.

## LATEST CURRENT PRICES OF METALS.

*LONDON, MAY 14, 1847.*

| | £ | s. | £ | s. | d. |
|---|---|---|---|---|---|
| IRON—Bar *a*..Wales...*ton* | 0 | 0— | 8 | 15 | 0 |
| „ ..London .. | 0 | 0— | 9 | 15 | 0 |
| Nail rods „ .... | 0 | 0— | 10 | 10 | 0 |
| Hoop(Staf.) „ .... | 0 | 0— | 11 | 15 | 0 |
| Sheet „ .... | 0 | 0— | 13 | 0 | 0 |
| Bars „ „ .... | 0 | 0— | 11 | 5 | 0 |
| Welsh cold-blast foundry pig .. | 4 | 10— | 5 | 5 | 0 |
| Scotch pig *b*, Clyde | 3 | 5 0 | 3 | 7 | 6 |
| Rails, average .... | 9 | 0— | 9 | 5 | 0 |
| Russian, CCND *c*.. | 0 | 0— | —— | | |
| „ PSI .... | 0 | 0— | —— | | |
| „ Gourieff | 0 | 0— | —— | | |
| „ Archangel | 0 | 0—13 | 10 | 0 | |
| Swedish *d*, on the spot | 0 | 0—11 | 15 | 0 | |
| „ Steel, fagt. | 0 | 0—16 | 5 | 0 | |
| „ „ kegs *e* | 0 | 0—15 | 0 | 0 | |
| COPPER—Tile *f* ..... | 0 | 0—97 | 0 | 0 | |
| Tough cake ..... | 0 | 0—98 | 0 | 0 | |
| Best selected ..... | 0 | 0 101 | 0 | 0 | |

| | £ | s. | £ | s. | d. |
|---|---|---|---|---|---|
| COPPER—Ordin. sheets, *lb.* | 0 | 0— | 0 | 0 | 11 |
| „ bottoms.. | 0 | 0— | 0 | 0 | 12 |
| YELLOW METAL SHEATHING | 0 | 0— | 0 | 0 | 9½ |
| TIN—Com. blocks *g*...*cwt.* | 0 | 0— | 4 | 12 | 0 |
| „ bars ..... | 0 | 0— | 4 | 13 | 0 |
| Refined ..... | 0 | 0— | 4 | 15 | 0 |
| Straits *h* ..... | 0 | 0— | 4 | 8 | 0 |
| Banca ..... | 4 | 14— | 4 | 15 | 0 |
| TIN-PLATES—Ch., IC *i*, *box* | 1 | 9— | 1 | 11 | 0 |
| „ IX ... | 1 | 15— | 1 | 17 | 0 |
| Coke, IC ..... | 0 | 0— | 1 | 5 | 6 |
| „ IX ..... | 0 | 0— | 1 | 11 | 6 |
| LEAD—Sheet *k* .....*ton* | 0 | 0—19 | 10 | 0 | |
| Pig, refined ..... | 0 | 0—20 | 10 | 0 | |
| „ common .... | 0 | 0—18 | 15 | 0 | |
| „ Spanish, in bd. | 17 | 10—17 | 15 | 0 | |
| SPELTER—(Cake) *l* on spot | 0 | 0—21 | 0 | 0 | |
| „ „ for arrival | 20 | 0—20 | 10 | 0 | |
| ZINC—(Sheet) *m* export.* | 0 | 0— 27 | 0 | 0 | |
| QUICKSILVER *n* .....*lb.* | 0 | 0— | 0 | 4 | 6 |

*a* Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto
*e* In kegs ¼ and ½-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash
in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash.
*m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32*l.* per ton.

IRON, Welsh and Staffordshire, continue dull; and Scotch pig, which rallied a few days ago from its late depression, is again offering low, but no transactions are reported. In foreign iron and steel nothing doing.

TIN, English, was reduced 3*s.* per cwt. on the 10th inst.; at a sale of Straits, on the 13th inst., two lots were sold at 88*s.*—the rest bought in.

Other metals remain as per last week's *Mining Journal.*

GLASGOW PIG-IRON TRADE, MAY 13.—Since date of our last, the price of pig-iron has slightly declined. Towards the end of last week, mixed Nos. were sold, to some extent, at 66*s.* per ton—prompt cash: to-day, not more than 64*s.* could be obtained for 3-6ths No. 1, and 2-5ths No. 3, and that to a very limited extent; at the same time, we hear of nothing pressing on the market, and if an order had to be executed, we question whether it could be done under 65*s.* to 65*s.* 6*d.*—cash, delivered free on board. Quotations are, therefore, quite nominal.

## PRICES OF METALS IN AMERICA.

*NEW YORK, APRIL 28, 1847.*

| | $ | cts. | $ | cts. |
|---|---|---|---|---|
| COPPER—Sheathing ....*lb.* | 0 | 23½ | 0 | 0 |
| „ Old ..... | 0 | 18½ | 0 | 18⅝ |
| „ Braziers'..... | 0 | 24 | 0 | 25 |
| „ Pig ..... | 0 | 18 | 0 | 0 |
| „ Bolts ..... | 0 | 24 | 0 | 25 |
| LEAD—Pig ..... | 0 | 0 | 4 | 37½ |
| „ Bar ..... | 0 | 4⅝ | 0 | 4⅝ |
| „ Sheet ..... | 0 | 0 | 0 | 5½ |
| IRON—Pig, Eng. & Scotch... | 0 | 0 | —35 | 0 |
| „ „ American, No. 1 | 0 | 0 | —32 | 50 |
| „ „ common ..... | 22 | 50 | —25 | 0 |
| „ Bar, RPSI..... | 100 | 0 | 102 | 50 |
| „ „ Swedish .....87 | 50 | —90 | 0 | |
| „ „ American, old..85 | 0 | — | 0 | 0 |
| „ English refined ....85 | 0 | — | 0 | 0 |
| „ „ common ..70 | 0 | —72 | 50 | |
| „ Sh. Russian, 1st qual. 0 | 11½ | — | 0 | 12 |

| | $ | cts. | $ | cts. |
|---|---|---|---|---|
| IRON—Engl. & American... | 0 | 5½ | — | 0 6 |
| „ Hoops do.....*cwt.* | 5 | 50 | — | 6 50 |
| NAILS—Cut 4 da. 40 ....*lb.* | 0 | 4½ | — | 0 4⅝ |
| (3d 1 c. & 2d 2 c. more) | | | | |
| „ Wrought, 6 to 20.... | 0 | 10 | — | 0 14 |
| „ Horse-shoe ..... | 0 | 17 | — | 0 21 |
| SHOT—Patent ..... | 0 | 5½ | — | 0 0 |
| „ Buck ..... | 0 | 6½ | — | 0 0 |
| SPELTER—In plates ..... | 5½ | C | — | 0 0 |
| STEEL—German.....*lb.* | 0 | 10½ | — | 0 13 |
| „ English Hoop L.... | 0 | 13 | — | 0 13½ |
| „ Spring ..... | 0 | 5½ | — | 0 5 |
| „ Trieste .....*boxes* | 0 | 0 | — | 0 0 |
| „ American ..... | 0 | 4½ | — | 0 5 |
| TIN—Block, South Amer.*lb.* | 0 | 0 | — | 0 0 |
| „ Ditto, East India .... | 0 | 0 | — | 0 0 |
| „ In plates, ½ dx. bx. .. | 9 | 25 | — | 9 50 |

* Duty—Pig and bar, 3 ; old and scrap, 1½ ; sheet, 4 cts. per lb.

## RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 161,457*l.*, thus accounted for:—84,234*l.* for the conveyance of passengers only, 39,243*l.* for the carriage of goods, and a remainder of 37,980*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 22,643*l.*, when the mileage was about 1,990.

| Name of Railway. | Lgth. Rway. | Present actual cost. | Last Div. | *Traffic Returns.* 1847 | 1846 |
|---|---|---|---|---|---|
| Arbroath and Forfar | 15 | £142,900 | 3 p. c. | £194 0 7 | £240 |
| Chester and Birkenhead | 15 | 658,292 | 2½ | 811 19 7 | 2476 |
| Dublin and Drogheda | 35 | 689,248 | 3½ | 874 19 5 | 751 |
| Dublin and Kingstown | 6 | 349,736 | 9 | 881 7 2 | 964 |
| Dundee and Arbroath | 16½ | 156,323 | 6 | 362 19 0 | 278 |
| East Lancashire | 28 | 814,417 | — | 791 11 9 | — |
| Eastern Counties | 184½ | 6,513,026 | 7 | 11036 13 7 | 8364 |
| Eastern Union | 17 | 227,253 | — | 522 0 0 | — |
| Edinburgh and Glasgow | 46 | 2,112,136 | 6 | 3497 17 11 | 3179 |
| Glasgow, Paisley, and Ayr | 53 | 1,567,281 | 7 | 2407 19 9 | 2054 |
| Glasgow, Paisley, & Greenock | 22 | 835,918 | 2 | 1164 4 11 | 915 |
| Great Southern and Western | 56½ | 1,343,718 | — | 1556 16 2 | — |
| Great Western | 241 | 9,714,939 | 8 | 19601 2 6 | 19568 |
| Ipswich and Bury | 26⅝ | 303,768 | — | 430 0 0 | — |
| London and North Western | 378½ | 18,042,004 | 10 | 42321 18 1 | 42269 |
| London and Blackwall | 4 | 1,102,717 | 1½ | 987 8 5 | 1118 |
| London, Brighton, & South Coast | 112 | 5,109,667 | 7 | 6764 6 7 | 4572 |
| London and South-Western | 127 | 4,278,789 | 9 | 7927 14 1½ | 7746 |
| Manchester & Leeds | 117½ | 5,036,391 | 5½ | 7727 7 3 | 6305 |
| Manchester, Sheffield, & Lincolnsh. | 49½ | 1,678,108 | 5 | 1995 0 0 | 1589 |
| Midland Company | 329½ | 7,862,274 | 7 | 19843 13 5 | 16824 |
| Newcastle and Berwick | 9 | 1,184,079 | 5 | 768 18 0 | — |
| Newcastle and Carlisle | 65 | 1,184,080 | 5 | 2191 6 5 | 1787 |
| Norfolk | 70½ | 1,199,689 | 7 | 1877 17 8 | 1907 |
| North British | 72½ | 1,459,958 | — | 1707 11 4 | — |
| Preston and Wyre | 30 | 432,014 | 2½ | 649 1 2 | 618 |
| Shrewsbury and Chester | 15 | 354,945 | — | 478 4 11 | — |
| South Devon | 20 | 1,061,283 | 5 | 623 6 9½ | — |
| South-Eastern | 140½ | 5,888,411 | 3½ | 8149 14 5 | 7139 |
| Taff Vale | 30½ | 888,411 | 6½ | 1471 11 1 | 1305 |
| Ulster | 25 | 358,353 | 5½ | 973 19 11 | 624 |
| York and Newcastle | 183½ | 1,712,317 | 9 | 7979 9 0 | 6561 |
| York and North Midland | 162½ | 2,483,256 | 10 | 6050 4 8 | 5120 |

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Adair's Main 16 6—Davison's West Hartley 19—Dean's Primrose 15 6—Dipton Tanfield 15 6—Wylam 17—Wall's End Walker 18 9—Eden Main 19 9—Belmont 19 9—Stewart's 20 9—Adelaide Tees 20—Tees 20 9—West Hetton 19 6.—Ships, 12.

WEDNESDAY.—Chester Main 18 6—Delaval Hartley 18—Derwentwater Hartley 18 6—Wall's End Braddyll's Hetton 20 to 20 3—Hetton 20 9—Lambton 20 3—West Hetton 19 6.—Ships at market, 8; sold, 8.

FRIDAY.—Carr's Hartley 19—West Hartley 19—Wall's End Acorn Close 18—Bewicke and Co. 18 9—Hilda 18 3—Wharncliffe 18 6—Eden Main 19—Braddyll's Hetton 19 3—Haswell 20 6—Hetton 20 3—Lambton 20—North Hetton Lyons 18 6—Shotton 19 9—Stewart's 20 6—Whitwell 18 3—Kelloe 19 9—Gordon 17 6—Maclean's Tees 18 3—Tees 20—West Hetton 18 9.—Ships at market, 39.

## PRICES OF MINING SHARES.

### BRITISH MINES.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 1000 | Abergwessin ..... | 7 .. | 12 |
| 512 | Albert Consols..... | 1 .. | 2½ |
| 1024 | Alfred Consols ..... | 4½.. | 35 |
| 235 | Andrew and Nangilles | 28½.. | 18 |
| 10000 | Ayrshire Iron Company | 3½.. | 2½ |
| 1624 | Balleswidden ..... | 9 .. | 18 |
| 128 | Balnoon Consols..... | 25 .. | 25 |
| 10000 | Banwen Iron Co..... | 2 .. | — |
| 1000 | Barristown ..... | 4½.. | 17 |
| 4000 | Bedford ..... | 2½.. | 3⅛ |
| 128 | Besore Lead Mine..... | 14 .. | 10 |
| 315 | Birch Tor Tin Mine.... | 21½.. | 10 |
| 8000 | Blaengavon ..... | 50 .. | 40 |
| 100 | Botallack ..... | 175 .. | 225 |
| 120 | Brewer ..... | 5 .. | 7 |
| 10000 | British Iron, New, regis. | 10 .. | 17½ |
| — | Ditto ditto, scrip..... | 10 .. | 19 |
| 128 | Budnick Consols .... | 52½.. | 40 |
| 128 | Burthy ..... | 20 .. | 21 |
| 100 | Bwich Cwmerfin .... | 20 .. | — |
| 128 | Callestock ..... | 17 .. | 50 |
| 1000 | Callington ..... | 19 .. | 29 |
| 256 | Caradon Consols..... | 47 .. | 4 |
| 256 | Caradon Copper Mine | 9½.. | 1 |
| 256 | Caradon Mines ..... | 22½.. | 18 |
| 256 | Caradon United ..... | 24 .. | 15 |
| 256 | Caradon Wh. Hooper.. | 20 .. | 4 |
| 1000 | Carn Brea ..... | 15 .. | 100 |
| 2048 | Carmarthen Consols .. | 2 .. | 5 |
| 112 | Charlestown ..... | 200 .. | 100 |
| 166 | Cleveland..... | 9 .. | 2½ |
| 1900 | Combmartin ..... | 7½.. | 4½ |
| 1000 | Combiawn ..... | ⅜ .. | 1½ |
| 128 | Comfort ..... | 45 .. | 80 |
| 256 | Condurrow ..... | 20 .. | 23½ |
| 2560 | Cook's Kitchen ..... | 14 .. | 5½ |
| 5000 | Coombe Valley Quarry | 1 .. | 1⅝ |
| 1000 | Copper Bottom ..... | 1 .. | 5 |
| 1024 | Cosheen ..... | 4½.. | 20 |
| 240 | Craddock Moor ..... | 15½.. | 15 |
| 128 | Creeg Braws ..... | 120 .. | 150 |
| 500 | Cubert Mine ..... | 12½.. | 25 |
| 2048 | Dartmoor Consols .... | 2 .. | 2½ |
| 7100 | Derwent ..... | 8½.. | 5 |
| 1024 | Devon&CourtenayCon. | 5½.. | 4 |
| 1000 | Dhurode ..... | 2 .. | 5 |
| 186 | Dolcoath ..... | 30 .. | 50 |
| 2560 | Drake Walls ..... | 4 .. | 4 |
| 10000 | Durham County Coal... | 45 .. | 9 |
| 256 | East Alvenney ..... | 3 .. | 10 |
| 112 | East Caradon ..... | 40 .. | 40 |
| 2048 | East Crowndale ..... | 4½.. | 1½ |
| 512 | East Combe Silver-Lead | 6½.. | 6½ |
| 128 | East Pool ..... | 5 .. | 20 |
| 100 | East Relistian ..... | 22 .. | 40 |
| 9000 | East Tamar Consols .. | 1⅞.. | 2½ |
| — | East Wheal Albert.... | 1 .. | 3 |
| 94 | East Wheal Crofty.... | 280 .. | 310 |
| 256 | East Wheal Fortune .. | 2 .. | 3 |
| 128 | East Wheal Rose .... | 50 .. | 1400 |
| — | East of Scotland Iron Co. | 2½.. | 2 |
| 123 | East Wheal Seton .... | 14 .. | 20 |
| 256 | Exmoor Wh. Eliza.... | 3½.. | 10 |
| 512 | Fowey Consols ..... | 40 .. | 45 |
| 20000 | Galvanised Iron Co. .. | 10 .. | 9½ |
| 10000 | Gen. Mining Co. for Irel. | 2 .. | 1½ |
| 2048 | Georgia Tin Mines .... | 1⅞.. | 1½ |
| 1000 | Godolphin ..... | 25 .. | 35 |
| 256 | Gonamena ..... | 31½.. | 65 |
| 128 | Goonvrea ..... | 4 .. | ¾ |
| 244½ | Grambler & St. Aubyn — .. | | 20 |
| 100 | Great Consols ..... | 1000.. | 400 |
| 256 | Great Callestick Moors | 22.. | 25 |
| 2560 | Great Michell Consols | 1½.. | 4 |
| 256 | Great Resugga Moor .. | 2 .. | 4 |
| 512 | Gt. Wh. Rough Tor Con. | 6 .. | 30 |
| 1500 | Great South Tolgus.... | 2 .. | 2 |
| 100 | Grogwinion ..... | 5 .. | — |
| 1000 | Gunnis Lake ..... | 1½.. | 3 |
| 256 | Gwinear Consols..... | 5 .. | 18-20 |
| 1000 | Hanson..... | 14 .. | 2 |
| 1000 | Harrowbarrow Old Mine | 6½.. | 3 |
| 800 | Hawkmoor ..... | 3 .. | 2 |
| 6000 | Heignston Down Con.. | ⅛.. | 2½ |
| 256 | Herodscombe..... | ⅛.. | 12 |
| 256 | Herodsfoot ..... | 14 .. | 13 |
| 10000 | Ilbernian ..... | 12½.. | 1 |
| — | Hobb's Hill ..... | 4 .. | 3 |
| 1000 | Holmbush ..... | 18 .. | 10 |
| 827 | Kirkcudbrightshire.... | 4⅞.. | 12 |
| 2048 | Lamberooe Wh. Maria | 9 .. | 4 |
| 74 | Lanarth & Penstruthal | — .. | 10 |
| 2048 | Lanivet Consols ..... | 4 .. | 2 |
| 200 | Larkholes..... | 1 .. | 3 |
| 160 | Levant ..... | — .. | 90 |
| 1000 | Lewis ..... | 15 .. | 6 |
| 1280 | Llancynfelin ..... | 6 .. | 10 |
| 1000 | Llwyn Malees ..... | 5 .. | — |
| 3600 | Llynvi Iron ..... | 50 .. | 60-65 |
| 256 | Lostwithiel Consols... | 7 .. | 7 |
| 128 | Ludcott ..... | 3 .. | 3 |
| 4000 | Marke Valley ..... | 10 .. | 3½ |
| 5000 | Mendip Hills ..... | 2 .. | 1½ |
| 128 | Metha ..... | 23 .. | 130 |
| 20000 | Mining Co. of Ireland | 7 .. | 8½ |
| 256 | New East Crowndale.. | 3½.. | 3½ |
| 128 | North Fowey Consols.. | 25 .. | 20 |
| 100 | North Pool ..... | 45 . | 160 |
| 70 | North Roskear ..... | 10½.. | 350 |
| 512 | North Treburget .... | 2 .. | 3 |
| 100 | North United ..... | 41 .. | 20 |
| 256 | North Wh. Abraham .. | ⅛.. | 12 |
| 262 | North Wh. Leisure .. | 1½.. | 3½ |
| 128 | North Wh. Providence | 2½.. | 8 |
| 15000 | Northern Coal Co. ... | 23 . | 2 |
| 1200 | Old Delabole Slate Co. | 25 .. | 50 |
| 2000 | Pantdrainlog Slate Co. | 2½.. | 3 |
| 128 | Par Consols..... | 900 .. | 1000 |
| 1024 | Pembroke..... | 1½ .. | 6 |
| 256 | Penhallow Moor ..... | 15 .. | 4 |
| 4000 | Pennant ..... | 1 .. | 3 |
| 100 | Penrhiw ..... | 30 .. | 65 |
| 256 | Pentuan Wheal Mary.. | 2½.. | 6 |
| 128 | Pen-y-Cefn Mine .... | 50 .. | 55 |
| 1280 | Perran St. George Un. | 13 .. | 20 |
| 128 | Perran Wh. Virgin.... | 9½.. | 65 |
| 512 | Plymouth Wh. Yeoland | 2⅞.. | 10 |
| 2048 | Prince Edward ..... | 1½.. | 1½ |
| 112 | Providence Mines .... | 35 .. | 45 |
| 256 | Redruth Consols..... | 3 .. | 10 |
| 10000 | Rhymney Iron..... | 50 .. | 30 |
| 256 | Rose Consols ..... | 10 .. | 6 |
| 1000 | Rosewall Hill ..... | 1 .. | 5 |
| 256 | Rosewarva Mines .... | — .. | 12 |
| — | Shotts Iron Company.. | 50 .. | 70 |
| 2500 | Silver Valley ..... | 4 .. | 1⅝ |
| 128 | South Caradon ..... | 10 .. | 400-10 |
| 2000 | South Dolcoath ..... | 2 .. | 2 |
| 256 | Sth. Friendsh. Wh. Ann | 14 .. | 14 |
| 200 | South Harvannah .... | 23 .. | 20 |
| 9000 | South Tamar ..... | ⅛.. | ⅝ |
| 256 | South Tolgus ..... | 2½.. | 20 |

### BRITISH MINES—*continued.*

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 800 | South Towan ..... | 10 .. | 1½ |
| 256 | South Trelawney .... | 15½.. | 10 |
| 128 | South Yeoland ..... | 16½.. | 20 |
| 128 | South Wheal Basset .. | 110 .. | 80 |
| 124 | South Wh. Francis.... | 160 .. | 225 |
| 256 | South Wh. Hope ..... | — .. | 5 |
| 1000 | South Wh. Maria..... | 2½.. | 2 |
| 256 | South Wheal Rose.... | 11½.. | 1 |
| 10000 | Southern&Western, Irish | 2 .. | 4-5 |
| 280 | Spearne Moor ..... | 30 .. | 40 |
| 256 | St. Austell Consols.... | 8 .. | 14 |
| 94 | St. Ives Consols ..... | — .. | 320 |
| 128 | St. Michael Penkivel .. | 5 .. | 10 |
| 1000 | Stray Park ..... | 43 . | 30 |
| 9600 | Tamar Consols ..... | 5 .. | 5 |
| 1024 | Tavy Consols ..... | 4 .. | 3 |
| 6000 | Tincroft ..... | 7 .. | 9 |
| 2000 | Tin Vale Consols..... | ⅛.. | 1½ |
| 256 | Ting Tang ..... | 15 .. | 9 |
| 128 | Tokenbury ..... | 143½.. | 17½ |
| 256 | Tolpetherwin ..... | 3½.. | 3⅝ |
| 256 | Trehane ..... | 2 .. | 22 |
| 5000 | Treleigh Consols..... | 6 .. | 3⅝ |
| 256 | Trenow Consols ..... | 30 .. | 25 |
| 96 | Tresavean ..... | 10 .. | 200 |
| 120 | Trethellan ..... | 5 . | 27½ |
| 120 | Treviskey and Barrier | 130 .. | 180 |
| 256 | Trewollack ..... | 20 . | 20 |
| 128 | Trewellard ..... | 12 .. | 26½ |
| 6000 | United Hills..... | 5 . | 1 |
| 100 | United Mines ..... | 300 .. | 500 |
| 256 | Wellington Mines .... | 15 .. | 30 |
| 128 | West Basset..... | 45 .. | 30 |
| 256 | West Caradon..... | 20 .. | 168 |
| 128 | West Cargoll ..... | 2 .. | 12 |
| 512 | West Fowey Consols .. | 40 .. | 15 |
| 256 | West Grambler ..... | 7 .. | 8 |
| — | West Kekewich Consols | — .. | 3 |
| 256 | West Providence..... | 1 .. | 22½ |
| 200 | West Seton..... | 40 . | 70 |
| — | West of Scotland Iron Co. | 210.. | 217 |
| 120 | West Trethellan ..... | 5 .. | 30 |
| 256 | West United Hills .... | 2⅜.. | 4 |
| 256 | West Wh. Friendship.. | 7½.. | 4 |
| 3845 | West Wheal Jewel.... | 11 .. | 2½ |
| 2560 | West Wh. Maria..... | 1½.. | 1 |
| 256 | West Wheal Shepherd. | 5 .. | 8 |
| 256 | West Wheal Tolgus .. | 21½.. | 3 |
| 256 | West Wheal Treasury | 19 .. | 25 |
| 5200 | Wicklow Copper..... | 5 .. | 12 |
| 184 | Wheal Adams ..... | 41 .. | 28 |
| 1000 | Wheal Agar..... | — .. | 8 |
| 256 | Wheal Albert ..... | 10 .. | 8 |
| 128 | Wheal Acland..... | 13 . | 2 |
| 256 | Wheal Allen ..... | 1½.. | 4 |
| 237 | Wheal Anderton..... | 16½.. | 30 |
| 128 | Wheal Ann ..... | — .. | 50⅞ |
| 128 | Wheal Arvose ..... | 3½.. | 4 |
| 1024 | Wheal Ash ..... | 2½.. | 12 |
| 120 | Wheal Bal ..... | 5½.. | 20 |
| 2560 | Wheal Barbara ..... | 1½.. | 1½ |
| 256 | Wheal Benny ..... | 6½.. | 4½ |
| 256 | Wheal Bincowe .... | 8 .. | 15 |
| 256 | Wheal Bucketts ..... | 20 .. | 29 |
| 256 | Wheal Byon Consols.. | ⅛.. | ⅛ |
| 256 | Wheal Calstock ..... | 3 .. | 4 |
| 136 | Wheal Clifford .... | 190 .. | 190 |
| 1024 | Wheal Concord ..... | 6⅜.. | 2 |
| 128 | Wheal Courtenay .... | — .. | 20 |
| 6000 | Wheal Curtis ..... | 1½.. | 2 |
| 256 | Wheal Dyke..... | 12 .. | 13 |
| 512 | Wheal Elizabeth..... | 2½.. | 3 |
| 256 | Wheal Fortescue ..... | 8½.. | 9½ |
| 512 | Wheal Fortune Consols | 3½.. | 6½ |
| 2048 | Wheal Frederick..... | 2 .. | 2 |
| 388 | Wheal Franco ..... | 27 .. | 35 |
| 256 | Wheal Gill ..... | 19½.. | 9 |
| 1024 | Wheal Grace ..... | 2 .. | 2½ |
| 128 | Wheal Harriet..... | 45.. | 50 |
| 2048 | Wheal Harriet..... | 11 .. | 25 |
| 256 | Wheal Kekewich..... | 4 .. | 4 |
| 256 | Wheal Louisa ..... | 6½.. | 11 |
| 112 | Wheal Margaret..... | 79 .. | 200 |
| 256 | Wheal Maria (Hayle) | 19 .. | 20 |
| 1024 | Wheal Maria ..... | 1 .. | 350 |
| 4000 | Wheal Martha Consols. | 5 .. | 2 |
| 512 | Wheal Mary Ann .... | 5 .. | 22½ |
| 256 | Wheal Mary Consols.. | 38 .. | 25 |
| 256 | Wheal Mary (Lanivet) | 6½.. | 4 |
| 256 | Wheal Maude..... | 1½.. | 1½ |
| 128 | Wheal Pollard ..... | 12½.. | 12 |
| 210 | Wheal Prospect ..... | 4 .. | 7 |
| 128 | Wheal Reeth ..... | 1 .. | 17 |
| 128 | Wheal Rose..... | 60 .. | 42 |
| 2048 | Wheal Samson ..... | — .. | 20 |
| 99 | Wheal Seton ..... | 214 .. | 300 |
| 256 | Wheal Sisters ..... | 29½.. | 35 |
| 256 | Wheal Sophia ..... | 3½.. | 10 |
| 128 | Wheal Spearne ..... | 10 .. | 75 |
| 128 | Wheal St. Ann ..... | 9 .. | 15 |
| 260 | Wheal Trelawney .... | 7⅝.. | 115 |
| 256 | Wh. Tremaine(St. Ervan) | 1½.. | 20 |
| 256 | Wheal Tremayne ..... | 35 .. | 50 |
| 128 | Wheal Trew..... | 20 .. | 21 |
| 256 | Wheal Trevenna ..... | 3 .. | 4 |
| 92 | Wheal Tryphena..... | 140 .. | 150 |
| 128 | Wheal Venland ..... | 12½.. | 10 |
| 127 | Wheal Virgin ..... | 50 . | 60 |
| 256 | Wheal Vlow (Perranz.) | ⅜.. | ⅜ |
| 184 | Wheal Vyvvan..... | — .. | 60 |
| 1024 | Wheal Walter..... | 4 .. | 2 |
| 256 | Wheal Williams .... | 2 .. | 18 |

### * FOREIGN MINES.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 5000 | Alten Mining Company | 14½.. | 4½ |
| 15000 | Asturian Mining Co. .. | 10 .. | 5⅛ |
| 20000 | Australian ..... | 2 .. | 6 |
| 10000 | Anglo-Mexican Co.... | 100 .. | 1 |
| 12374 | Ditto Subscription .... | 25 .. | 2½ |
| 3000 | Bolanos ..... | 150 .. | 6½ |
| 2000 | Ditto Scrip ..... | 15 .. | 6½ |
| 12000 | Brazilian Imperial .... | 20 .. | 2½ |
| 10000 | Cobre Copper Co. .... | 40 .. | 25½ |
| 8500 | Colombian Co. regis.. | 55 | 4⅜ |
| 5000 | Ditto Scrip ..... | 5½ | |
| 5000 | Coplapo Mining Co.... | 14 .. | 3½ |
| 10000 | General Mining Ass'n. | 20 . | 15½ |
| 5000 | Kinzigthal Mining Ass. | 2 .. | 3 |
| 20051 | Mexican Company.... | 59 .. | — |
| 2000 | Mexican & South Amer. | 7 .. | 3 |
| 5000 | Mocaubas & Cocaes .. | 25 .. | 5½ |
| 29320 | Rl. del Monte, regis. | 28½.. | av. 3½ |
| | Ditto unregistered | | |
| | Ditto Red Debentures | — .. | 16 |
| | Ditto Black ditto .... | — .. | 14 |
| | Ditto Loan Notes .... | 150 .. | 97½ |
| 7000 | Royal Santiago ..... | 10 .. | 5 |
| 2000 | Pachuca Mines ..... | 4 .. | 4½ |
| 11000 | St. John del Rey .... | 15 .. | 7½ |
| 43174 | United Mexican ..... | 28½.. | 2½ |

### SOUTH AUSTRALIAN SHARE MARKET.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 2000 | Adelaide ..... | 5 .. | 6 |
| 600 | Barossa Range ..... | 4 .. | 24 |
| 2464 | Burra Burra..... | 5 .. | 90 |
| 436 | Grand Junction ..... | 15 .. | 28 |
| 200 | Greenock Creek ..... | 5 .. | 12 |
| 100000 | Scottish Invest. Co.... | 1 .. | 1½ |

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 18 | South Para ..... | 15 .. | 50 |
| 1000 | Poonawurta ..... | — .. | 9½-10 |
| 400 | Princess Royal..... | — .. | 259 |
| 10000 | Royal South Australian | — .. | 55½ |
| 600 | Victoria..... | 2 .. | 2 |
| 500 | Wakefield ..... | 2 .. | 2 |

### SOUTH AUSTRALIA AND NEW ZEALAND.

| | | | |
|---|---|---|---|
| 100000 | North British Australasian (Kaw-aw, &c.)..... | .. | 1 .. 1½ |

## JOINT-STOCK BANKS.

| *Companies.* | *Shares.* | *Paid.* | *Price.* |
|---|---|---|---|
| Australasia ..... | 22,500 | £40 | £22 |
| British North American ..... | 20,000 | 50 | 44⅝ |
| Colonial..... | 20,000 | 25 | 15½ ⅝ |
| London and Westminster ..... | 40,000 | 20 | 26 ⅝ |
| London Joint-Stock ..... | 60,000 | 10 | 16 |
| National of Ireland..... | 20,000 | 22½ | 19⅝ |
| Provincial of Ireland ..... | 20,000 | 25 | 44 |
| Ditto New ..... | 4,000 | 16 | 16 |
| Union of Australia ..... | 20,000 | 25 | 24 |
| Union of London..... | 60,000 | 10 | 12 |

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending May 8, was 17,496; amount of money, £72 18*s.* 0*d.*

IMPERIAL BRAZILIAN MINING ASSOCIATION,

Winchester-house, Old Broad-street, London, May 14, 1847.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of shareholders, convened for the 20th inst., is POSTPONED until Thursday, the 17th June next, on which day the said meeting will be HELD, at the London Tavern, Bishopsgate-street, at Two o'clock precisely. 52

GEORGE THOMAS, Acting Director.

DESIRABLE INVESTMENT.—WANTED, a PARTNER, who can command a capital of £2000 to £3000, in a COLLIERY, from which a very considerable profit can be realised—the above forms a very eligible opportunity to any one who desires to enter into business. The colliery is very conveniently situated, being only a few hundred yards from the Macclesfield and Trent and Mersey Canals; the tram-road to which is crossed by the North Staffordshire Railway, thus affording facility for easy transit—the mine is capable of being worked to the extent of 200 tons per day, and upwards. Any gentleman offering himself as a partner, will have the opportunity of taking the management, or otherwise. For further particulars, apply to Mr. Henry Sherratt, Surveyor, New Road, near Talk-o'-the-Hill, Staffordshire. 53

## LEAD ORES

*Sold at Holywell, 6th May, 1847.*

| *Mines.* | *Tons.* | *Amount.* | *Purchasers.* |
|---|---|---|---|
| Frongoch ..... | 39 ..... | £10 10 6 .... | Walker and Co. |
| East Logylas ..... | 31 ..... | 16 8 0 ... | ditto |
| Goginan ..... | 24 ..... | 14 11 0 .... | Mather and Co. |
| Graigcoch ..... | 16 ..... | 10 5 0 .... | Walker and Co. |
| East Logylas ..... | 40 ..... | 10 8 0 ... | ditto |
| Bog ..... | 26 ..... | 9 15 0 ... | ditto |
| Darren ..... | 14 ..... | 15 17 6 ... | ditto |
| Shallee ..... | 32 

## NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To the Editor,
*Mining Journal Office,*
26, Fleet-street, London.

Also, to avoid trouble, Post-Office Orders should always be made payable to William Salmon Mansell, as acting for the proprietors.

Our next Journal will be on a full DOUBLE SHEET, and will contain a

Beautiful Engraving of a

NEW WROUGHT-IRON BRIDGE AT BRISTOL.

Span of arch, 600 feet, and 230 feet above high-water mark; with a description of the novel, simple, and economical mode of construction and combination.

Dr. Clanny's Lamp.—During the past week, we have had handed us one of Dr. Clanny's improved safety lamps, and which we shall have pleasure in submitting to the inspection of any persons engaged in coal mining operations, or otherwise interested, on calling at our office.

"W." (Bristol).—The address of Capt. Harpur, of Mendip Hills Mine, is Blagdon, near Bristol.

Gold and Silver Mines of the New World.—This series of papers will be concluded in our next.

We have a many matters necessarily omitted in our present Number—among them the Literary Notices; the Transactions of Scientific Bodies; an illustrated description of Mr. Biram's Safety Lamp; the Water-balance Winding Machine; Ventilation of Mines by a Jet of Steam; a paper on Silvering Glass, &c., &c.; all of which our double sheet of next week will enable us to clear off.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all the news agents, at the Royal Exchange, and other parts of London.


# THE MINING JOURNAL

**Railway and Commercial Gazette.**

LONDON, MAY 15, 1847.


In consequence of the extraordinary length of the managing agent's report of the Devonshire Great Consolidated Mines, we were precluded, from want of space, publishing last week a few observations on this truly great and important mine. We paused before we decided on giving the whole of that elaborate report—but, on perusal, it became too obvious, that to *condense* the same, would be to *detract* from well-earned merit that eulogium, which the mining community are ever ready to bestow on talent and enterprise. We, therefore, gave, and that with pleasure, a report, which, in its original form (for we were necessitated to leave out a vast deal of tabular matter not suited to our columns), perhaps, the most interesting, statistical, and detailed statements, ever presented to a body of adventurers. The balance-sheet presents pleasing and gratifying results to the proprietors—whilst in its abstract, ample matter is afforded for serious contemplation; when we consider the amount of positive good resulting from the extraction of 14,398 tons of copper ore, during a brief period of less than 12 months—furnishing means of employment to hundreds of the labouring classes—circulating upwards of 50,000*l.* annually, earned in an isolated spot—throwing its influence over a circle of unknown extent—enriching, from the Ducal crown, to the offspring of the humblest "sons of toil." Such are the benefits arising from a wealthy and well-conducted mine—the interests of all are blended and advanced—no trade, or occupation, that can be named—all, more or less, are drawn into this great vortex of employment.

The amount of dividends paid during the past year is 25,600*l.*—the preceding year amounted to upwards of 70,000*l.*; this falling off may be accounted for in the great outlay for machinery, timber, and many other expenses (which may not be again required), as well as the increased monthly cost, attendant on all mines as they become more fully developed. Since the meeting, we are advised that the lode at Wheal Josiah has considerably improved, and now worth 200*l.* per fm., and daily improving. In conclusion, we beg to offer our hearty gratulations to the proprietors, on their general and improved prospects; and to Mr. Hitchins, we tender our humble meed of praise for the energy and ability displayed by him in conducting the operations of the mine.

## THE DUTY ON COPPER ORES.

The important question of the policy, or otherwise, of repealing the duties on the importation of foreign copper ore, which has been so fully and so ably discussed in our columns, and which we had fully expected was at least for the present session of Parliament set at rest, is again likely to become a subject for animadversion. Sir Charles Lemon, Bart., the Member for West Cornwall, has, in a letter to the Earl of Clarendon, endeavoured to prove that the arguments used by the advocates for abolition, in their petitions to the Legislature, are founded in error, and based on fallacy. The subject is of such interest, that it demands every inquiry; and, as it would be impossible to insert the whole of the worthy baronet's letter in our columns, we will endeavour to lay before our readers its substance, and the data on which his arguments, in favour of the continuance of the duty, are founded, and leave them to form their own conclusions. His letter is dated April 23; and, although he was not present when the deputation attended on Lord John Russell the day previous, pressing for the repeal of the duties on copper ore, Sir Charles *assumes*, that the arguments then used were the same as those contained in the memorials previously sent to the Board of Trade. These petitions were nine in number; and contained in general language the following six pleas:—viz., 1. That copper ore is the only raw material of manufacture still subject to duty.—2. That, in consequence of the duties, the trade in foreign ores has, and is likely further to be, materially diminished.—3. That ore from Chili was, previous to 1842, almost exclusively smelted in England; and that smelting in that country had nearly ceased when the duty was imposed.—4. That, owing to the duty and the jealousy occasioned thereby, the trade is likely to be greatly diminished; the Chilian Government viewing it as a hostile and unfriendly act, which they would meet encouraging, smelting in their own country.—5. That exertions are being made to establish smelting-works in France, Holland, and America.—6. That the result of the change in 1842, has been pernicious to the foreign trade in copper, and to the manufacturing trades in the great Lancashire and other districts. These pleas, Sir Charles answers, *seriatim*—to the first, he calls attention to timber and tallow, which, observing that the petitioners had shut their eyes to these two articles, they are both extensively used in the mines of Cornwall; and, since a duty was levied on them in 1842, press on them most severely, which they were unaccustomed to until that year; and the miners, if the petitioners are right, ought now to have the relief from those duties which they enjoyed previous to that year. To the second, representing a growing diminution, Sir Charles appends a table, showing that a great increase, instead of decrease, took place, on an average of four years *after*, as compared with four years *before*, 1842, of 11,738 tons to 7231 tons, or 62 per cent.; how far this table bears upon the case when, previous to 1842, the ore could only be smelted in bond for re-exportation, we leave our readers to judge. The continual decrease of foreign, as well as Cornish, ores, during the past three years, he attributes to accidental causes, and the natural falling off of the produce of the mines. To the third plea, "that smelting had nearly ceased in Chili in 1842;" it is shown that, from 1836 to 1839, they exported more than half their produce in copper of their own make, smelted from wood, but of inferior quality. He then says—"Doubtless there is a portion of the Chilian mines smelted at home; such was the case before the tariff existed, and such always will be the case, as long as the forests remain unexhausted, which provide the only fuel the country affords. The accidents of trade, the great demand for guano—nay, even the very increase in the quantity of ores sent home to us—all have tended to increase the means of smelting in Chili by the returns of coals from England; and the smelters must not be surprised if, in proportion as their import of ores becomes greater, the quantity of coals exported should be greater also."

With respect to the production of coals in great abundance at "Conception," and the erection of smelting-works on the spot, Sir Charles has no documents on the subject, but thinks probabilities are against the accuracy of such statement. To the fourth plea it is answered, that the duties paid in this country on copper ores can produce, at the utmost, 10 per cent. *ad valorem*; while in Chili all textile fabrics pay 20 per cent.; cutlery and brass, 20; looking-glasses, 35; other glass, 20; pottery, 20; beer and cyder, 50; paper, ironware, &c., 20 per cent. "Assuredly, there is nothing in all this to justify, nor anything to create jealousy, adverse to the Chilians dealing with us." To the fifth plea, he says—"In 1845, we were told that vast smelting-works were in course of construction in France—that their prospects of success were unequivocal—that already we had lost a great part of our copper exports to France—and the rest would surely follow. There is a useful lesson to be learned from this change of tone; for it covers the fact, that the experiment of smelting copper has been made in France, and failed. It is true, that in 1844 and 1845, attempts were made to establish smelting-works there, in connection with rolling-mills, which have existed for many years, but the cost was found to be too great. The proprietor has again returned to our market, and is one of the best customers that we have; and our export in the next year, 1845, was increased by many thousand tons." He then proceeds to show, that smelting never can be successfully carried on in France, in competition with Swansea, from the fact, that coals there cost 25s. per ton; while at the place they may be had for 3s. 6d. That the experiments in America are proceeding on a small scale—the works at Boston using anthracite coal and wood—the former 35 per ton—those at Baltimore bituminous coal, at 17s. 6d. per ton. To the sixth and last plea a table is brought forward to prove, that since 1842, on an average of four years, our exports of copper have increased 3207 tons on 14,387 tons, or 22½ per cent.; while on the second plea, it was proved that there was an increase on imports of ores of 62 per cent. After going through other allegations from memorials from foreign mining companies, complaining of the injury they suffer from the duty, Sir Charles concludes by observing—"I have now I trust said enough to convince your lordship, that caution must be used in adopting the cry for the abolition of a duty, which I am firmly persuaded does harm to no one branch of our prosperity, and brings 50,000*l.* or 60,000*l.* into the Exchequer. *I do not conceal my impression, that the fears of those who cling to the duty, are somewhat exaggerated*—but the pleas of those who argue for its repeal, are magnified tenfold. It is the opinion of every one, that the mines of Chili, including Copiapo, are likely to become much more productive, and that we shall receive greatly increased supplies from thence; and, if in the mean time, the mines of Cuba, England, and Ireland, should continue in their depressed state, the cause of their diminished produce can no more be attributed to the tariff of 1842, than can the failure of the potato crop be accounted for by the repeal of the Corn Laws.

## REPEAL OF THE DUTY ON COPPER ORES.

TO SIR CHARLES LEMON, BART, M.P. FOR WEST CORNWALL.

Sir,—I have had the pleasure of perusing a pamphlet published by you, in the form of a letter to the Earl of Clarendon, President of the Board of Trade, on the subject of the duty on foreign copper ores—I say *pleasure*, because all your arguments in favour of these obnoxious laws are so easily refuted; although it is with pain I witness the publication of such sentiments from one whom I ever considered the champion of Liberal views, and whose exertions in the cause of humanity, and the interests of all classes, have ever been looked up to with admiration and respect. In opening your case, you accuse the petitioners to the Board of Trade with unfair statements, and even with expressing themselves in palpable untruths; and, while I do not agree with you in such assertions, I am sorry to observe, that you have made use of the very system of garbling facts, with which you accuse the advocates for abolition. In answer to their observation, "that copper ore is the only raw material subject to duty," you accuse them of "shutting their eyes, lest timber and tallow stare them in the face;" and, in a note, you seem desirous to lug in sugar likewise. Now, these articles of commerce are not analagous—timber is dressed and squared in the forests of Canada, North America, Norway, &c.; and, when it arrives here, is ready for the sawyer and the manufacturer; tallow also undergoes the process of melting and refining, and is ready for every use to which it is applied in this country; and, as for sugar, it is a regularly manufactured article, fit on arrival for immediate use—a portion of which only is used by the refiner to produce an article of superior luxury. Not so with copper ores, arriving here as they left their native earth, only being stamped to allow of assortment, they have to go through expensive and tedious processes of smelting, refining, &c., before they are in a fit state to be of any use to the manufacturer at home, or to the merchant for exportation abroad. Again, you accuse them of showing a decrease, while there is, in fact, an increase since 1842; and you unfairly take an average of four years before, and four years after, 1842—showing an increase of 62 per cent. Now, Sir, you know well the memorialists *did not*, could not, have made so untrue, so silly, a statement; their showing was, that *since* 1842—viz.: from upwards of 11,000 in 1843, and 13,000 in 1844—the importations had diminished to 10,000 tons in 1846; and, even with your way of explanation, you forget to tell us, that the smaller quantity previous to 1842, only came to be smelted in bond, and the metal then re-exported, not a particle of it for home consumption. These are the commencement of your *explanations*—I could equally show the fallacy and evident partial bearing of your remarks on the other pleas, would the columns of a newspaper allow the extension of this letter, or had I the leisure to continue the subject. I trust, however, I have shown enough to put your readers on their guard, to induce them to weigh well the tendency and the evident *object* of your remarks, and to compel them to take the subject into their serious consideration, and exercise a dispassionate judgment, before they take your *ipse dixit* as gospel for all that is set forth in your letter to the Earl of Clarendon.

*Truro, May* 11. A Free Trade Miner, but no Smelter.

## THE COAL TRADE.

A deputation from the working colliers of the United Kingdom waited upon Mr. Thomas Duncombe, M.P., yesterday, to invite his attention to the following petition, and to request him to present it to the House of Commons. The hon. Member received the deputation most courteously, and promised to present their petition on Tuesday next:—

*To the Honourable the House of Commons of Great Britain and Ireland, in Parliament assembled,*
*The humble Petition of the Colliers whose names are hereunto subscribed.*

Humbly Sheweth:—

That your petitioners are colliers, working in the coal mines in the coal districts of England, Wales, and Scotland.

That they have seen and heard with great satisfaction, that several laws have been passed of late years to better the condition of working men in different trades, and for their and their children's protection and safety from injury and accident; and to assist in the improvement of their mind and habits. And your petitioners with great confidence submit to your honourable House, that the colliers have at no time in no wise been behind hand in honesty, peaceful conduct, and loyalty; and they, therefore, approach your honourable House, in the full hope that they will receive from your honourable House consideration and attention. Your petitioners believe that much may be done by judicious laws for the benefit of your petitioners and the colliers in general, without wrong or injury to any one.

Your petitioners desire to direct the attention of your honourable House to the many deaths continually happening from bad ventilation in the mines, and also to the distressing accidents which still more frequently occur from the same cause, and from which your petitioners are put to heavy expenses, and lose their work for long periods of time; but which accidents, unfortunately for your petitioners, do not come before the public, unless they occasion death. In many mines, the air-courses are not made with sufficient care, nor attended to with sufficient vigilance and caution; in many, the air has to travel too long a distance from the down-cast shaft to the up-cast shaft; in many, there is great neglect by the underlookers and others, whose duty it is to look after the mines and the colliers; air-doors are broken where they ought to be perfect—open when they ought to be shut—in some cases sheets have been hung up instead of doors—and many other neglects occur from over confidence, caused by previous freedom from accident. Your petitioners admit, that many of your petitioners have been neglectful and over confident; but they are many of them very poor, and their position with their masters does not often allow them to speak freely of facts, and as they really are.

That your petitioners have heard, and many of them know it to be true, that great good has been effected in cotton factories from the appointment of inspectors, and by the provisions for ralling off machinery, and to prevent neglect and accidents; and they submit that some similar plan for the miners would do much in guarding against danger and accident.

Your petitioners submit to your honourable House that inspectors should be appointed to visit all the mines, and that some of these inspectors should be men practically acquainted with colliery work; that such inspectors should see that accurate maps are made of all the workings in the mines; that these inspectors should grant licenses to mines where they consider that due provision and care has been used to prevent accidents and ensure good ventilation; and, that without such license no mine should be permitted to work. That penalties of 100*l.* at the least, should be inflicted in case of any deviation from the orders of such inspectors, and that such penalties should be paid half by the landlord, and half by the tenant of the mine, and should form a fund for the support of the families of those who die from explosions or other accidents in the mines. Your petitioners submit that small fines in these cases are not felt, and are of no use whatever.

Your petitioners submit to your honourable House that the appointment of inspectors would not only ensure a better system of ventilation, but would also remove or lessen many other causes of death—such as roofs falling—water rushing in—defective chains and engines: these, and many other instances of want of due caution would become much less frequent if proper inspectors were appointed to visit the mines, and were invested with sufficient power to enforce a compliance with their directions; such inspectors giving no notice of their intention to visit the mines, and at all times going there when they were not expected.

Your petitioners have heard that the Government of the country have been, and are, endeavouring to discover some plan by which accidents from bad air may be altogether prevented in mines. But your petitioners fear that such discovery will be very difficult and distant; if not altogether beyond the power of man. And your petitioners are well aware, and they submit it to your honourable House, that accidents from sudden and unlooked for accumulations of bad air are not so frequent as has been represented, but that in almost all cases it would appear on inquiry that it was known for some time before that there was bad air, and that there was danger. And your petitioners believe, from long observation, that for every one accident which could not be foreseen nor guarded against, 50 at least happen which might have been prevented by proper precaution. And your petitioners believe that no laws or rules that your honourable House could make would ensure good ventilation or proper care, unless inspectors were appointed to see such rules and laws attended to.

Your petitioners have observed with much satisfaction the laws compelling the masters in factories to provide some amount of education for the children who work there, and your petitioners submit to your honourable House that a similar plan would be of great use to the children of colliers. Unless your honourable House assist your petitioners in carrying out this their wish, that their children may be educated, not 1 in 100 of the generation of colliers now growing up, will be able to write or read. As the colliers are placed—and your honourable House will, on consideration, see the truth of this assertion—the difficulty of obtaining education for their children is much greater than ever it was for the parents of factory children.

Your petitioners inform your honourable House that many accidents occur in the mines from persons being entrusted with the care of the engines who have served no regular apprenticeship, and are incompetent for the work. Your petitioners submit that no person ought to be so entrusted until he has served a regular apprenticeship of at least three years, and is 21 years of age, and has been examined by an inspector, and received a certificate of his being fully qualified—many valuable lives would be saved if a law were made to this effect.

Your petitioners submit to your honourable House that a public registry should be kept of the owners and tenants of all mines; and that, before a mine is licensed, such owners and tenants should sign a declaration, that they would do all in their power to enforce the laws for the good management of their mines, and the protection of the lives of the colliers; and that they would attend at all times, and give evidence and information when required by the inspectors or by magistrates. At present in cases of complaint, it frequently happens that no one knows who is the proper and responsible person to apply to.

Your petitioners ask your honourable House to inquire into the truck system, and the manner in which the law made for the purpose of putting down that system is evaded. Many colliers in Scotland and in other parts are, by various ingenious contrivances, compelled to submit to this system, and cannot protect themselves from it. And your petitioners submit that a person offending against the laws for the abolition of truck, ought to be tried as a criminal, and punished with a degrading punishment; and not suffered to be discharged on paying a fine.

Your petitioners inform your honourable House that much misery and loss is occasioned by the system of paying colliers' wages at long intervals; one consequence is, that the collier is obliged to purchase his goods from the truck shop. Your petitioners ask your honourable House to make a law that wages shall be paid every week, or at not greater intervals than once a fortnight. Your petitioners gratefully acknowledge the good effected by the law against payment of wages in beer-shops; and the law which they now ask for, would, they assure your honourable House, be equally beneficial in its operation. And your petitioners assure your honourable House that such a law would go further than any other remedy to do away with the truck system.

Your petitioners also ask your honourable House to make a law that the colliers shall be paid for their work by weight, and not by measure. It has been found most satisfactory to coalmasters and the public to sell and buy their coals by weight instead of by measure; and your petitioners assure your honourable House, that payment by weight is much more fair for all parties than by measure. And your petitioners also ask your honourable House, to enact in the same laws that coals may be weighed by beams and scales, as that mode of weighing is less likely to be wrong, and would give more satisfaction.

Your petitioners humbly pray your honourable House to take the matters of this petition into your consideration, and to pass such laws as to your honourable House shall seem just and proper to carry into effect the wishes of your petitioners.

And your petitioners will ever pray, &c.

## DISTURBANCES IN THE MINING DISTRICTS.

Birmingham, May 13.—The mining population of these districts continue in a very unsettled and unsatisfactory state. The outrages committed at Walsall on Monday have been repeated in other parts of the district to-day. A large number of miners assembled at Wednesbury yesterday, and proceeded to turn out the Irish employed in the pits and workshops; and, in so doing, inflicted severe injuries upon the unfortunate men who were the object of their vengeance. A meeting of colliers also took place on the road near Wolverhampton yesterday, and again this morning, when outrages of a similar description speedily succeeded. The police have succeeded in apprehending two offenders at Wednesbury, and four at Wolverhampton; but, as yet, the mob appear reluctant to come in contact with the authorities.

There can be no doubt that the affairs of the district—so far as the disposition of the miners is indicative of mischief—present an alarming aspect. It is stated that the turnout has its origin in the following circumstances:—In these days of comparative prosperity of the colliery and iron trades, it is the practice of the colliers to make two days holiday in the week, and during this period the pits become foul or unfit for immediate work without previous cleansing. For this purpose the masters had found it requisite to call in the aid of the Irish labourers, who are glad to obtain employment. This has given grievous offence to the native colliers; and, it is said, all other modes failing, should the Irish be continued in their present employ, a general strike of colliers may be anticipated in a few days. A similar disposition has manifested itself in North Staffordshire. The police at Wolverhampton are prepared to meet any emergency which may arise, and already the authorities are in communication with the military located in the neighbourhood. These facts are collected from the best authorities resident in the districts where these unpleasant demonstrations have occurred. It is to be hoped that the determination hitherto displayed by the magistracy, combined with the prudence which characterised the conduct of the colliery proprietors three years ago, will have the effect of restoring peace and order.

We are happy to find, that later intelligence represents the state of public feeling in a more satisfactory light; and that there is every probability of the dissension abating without a further disturbance of the peace in the respective districts,—though there are yet (last night) many hundreds of able-bodied Irishmen prohibited attending their employ.

## SMITH'S GUTTA PERCHA SAFETY FUZE.

[Patentee Mr. G. Smith, Camborne, Cornwall, safety-fuse manufacturer. Patent dated November 12, 1846. Specification enrolled May 8, 1847.]

The object of the present invention is the manufacture of safety fuzes, in such manner and of such material, that they shall be less liable to injury from changes of atmospheric temperature, damp, or the action and pressure of water, when employed in submarine operations. Mr. Smith states, that this is best effected by employing gutta percha to enclose an interior cylinder of gunpowder; or as a coating, or covering, for the ordinary hempen fuzes. That part of the invention which relates to the enclosing of an interior cylinder of gunpowder with gutta percha, is performed in the following manner:—A cylinder of iron, or other suitable metal, capable of supporting a pressure of 300 lbs. to the square inch, and made at its lower extremity of the form of an inverted cone, is surrounded with a casing, between which and the cylinder steam is allowed to circulate. The lower part of the cylinder—that is, the apex of the inverted cone—terminates in a pipe, which is carried down through a cistern of cold water. A gunpowder chamber, or funnel, is supported by suitable bearings in the centre of the cylinder, and, passing through the inverted cone, terminates in the pipe below the joint. The funnel is filled with gunpowder, having a thread through the centre thereof to facilitate its passage; and the cylinder with gutta percha. The steam is made to circulate between the cylinder and outside casing, until the gutta percha assumes the consistency of putty. It is then pressed through the pipe, and, passing round the gunpowder funnel, takes the form of a hollow tube, while it becomes filled with gunpowder. The fuze, in passing through the cold water cistern, acquires a degree of firmness, which may be increased by causing it to pass between two rollers, grooved on their peripheries, and made to revolve in opposite directions. The ordinary hempen fuzes are also coated with gutta percha in the following manner:—An iron cylinder, similar to the preceding, and heated in like manner, is filled with gutta percha, which is subjected to the pressure of about 300 lbs. to the square inch. The sides of the cylinders are bored, with holes of different diameters, to suit the size of different fuzes, to which inlet and corresponding outlet pipes are attached. When the gutta percha is sufficiently softened, a wire, hooked at the end, is made to enter one of the inlet pipes, and, passing through the mass of gutta percha, to come out at the exit one opposite. The fuze is cooled in its passage through the exit pipe by an arrangement similar to the one described.—*Mechanics' Magazine* of this day.

What would England be without Iron.—What elements of power, of wisdom, of science, at once disappear! steam-engines cease in an instant; the railroad becomes a nullity; the thousand nice operations, requiring the most delicate steel, are no more; and the very constitution of our bodies undergoes a change, the effects of which the most learned chemist may in vain attempt to scrutinize. Thus, on the great boon of iron depends a long series of effects, the range of which comprehends some of the most important matters in the history of man. A piece of iron may, therefore, suggest to a thoughtful mind considerations of the very loftiest character. Such reflections may be stimulated whilst contemplating the ceaseless fires of the smelting and refining furnaces, or when listening to the din of engines, with powerful rolls and gigantic hammers; but they need not depend on such striking operations for their existence;—the sight of a knife, a lady's needle, the wheel of an engine, or the piston of a boiler, is enough to call up a crowd of similar meditations.

Nasmyth's Steam-Hammer.—On Tuesday, one of Mr. Nasmyth's recently invented steam-hammers was put into operation at the Shrubbery Iron-Works, belonging to Messrs. Thorneycroft and Co., near this town. It is the only one in the neighbourhood, and its first operations were directed by the inventor, with his own hands. Several gentlemen, interested in trades to which the invention is applicable, were also present, and watched its performance with great attention. It has been justly said that the steam-engine will alike forge an anchor, or polish a pin, impel a railway train, yet spin and weave threads rivaling gossamer; in the machine before us, however, these wondrous powers, in other instances separate, are astonishingly heightened by their combination. Vast power and the most delicate touch are united; pieces of iron, 7 or 8 in. in thickness, by a single blow were broken; while an egg in a wine glass, placed under the hammer, was so lightly touched that its end was only fractured, as if by the gentle tapping of a spoon. Nuts were broken without injury to the kernels. The hammer itself, we should state, weighs about 2½ tons. No description of the machine could be understood unless accompanied by drawings. We content ourselves, therefore, with a short notice of a main principle of its construction. The piston of a steam-engine commonly works upward from the cylinder; in the machine in question, the cylinder is placed at the top of two very strong iron cheeks, and the piston works downwards; to it the hammer, which runs between the cheeks or framework, is attached, and the motion is communicated by the admission of steam into the cylinder in the ordinary manner. The regulation of the motion is effected by springs and screw-work, opening and closing valves connected with the steam-box or cylinder; and so nicely are these calculated and adjusted, that the machine is easily worked by a single man from a handle attached to the screws. The full fall of the hammer, 2½ tons weight, as we have noticed, is in reality 4 ft., but it is not considered safe to work it with a greater fall than 3 ft. 9 in. The weight of such a blow, and to which an impulsive power also can be given, can hardly be calculated; scarcely anything, indeed, seems capable of withstanding its crushing effect. About 25 tons of iron, besides more than a boat load of timber, are used in the foundation. One purpose to which we saw the machine applied was shingling some of the best charcoal iron. The exhibition afforded much satisfaction to all present, and Mr. Nasmyth was warmly congratulated on his success in adding such a vast, yet manageable, power to our mechanical resources.—*Wolverhampton Chronicle.*

## PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The Chamber of Peers is preparing for the trial of General Cubiéres, for the affair of the mines of Gouhenans; reports are, however, current that the matter will be hushed up. Great personages fear that, if allowed to come fairly before the public, it may lead to the discovery that, the Gouhenans Mines are not the only ones of which a concession has been obtained by corruption. M. Parmantier, who brought Cubiéres's letters to light, has lost his process against him—in fact, he made out no case at all, and it is almost certain that he merely commenced the suit to be able to make the letters public.

M. Rothschild is said to have purchased the greater part of the Roche la Molière concession of coal-pits, in the department of the Loire, at the price of about 280,000*l.* His object is said to be to unite them to the concessions of the great amalgamated companies. The shares in the company of La Roche Molière were originally at 1000 fr. (40*l.*); but the price he has given makes them worth 320*l.* The great company, as I mentioned some time back, has obtained the great concession of Firmini; it is also believed to have got the coal-pits of La Chona—in fact, it is by no means frightened by the sturdy opposition of the St. Etienne people, headed by their municipal council; for almost every month it absorbs other concessions. It has already the greater part of the coal basin of the Loire, and will soon, no doubt, have the whole of it. The engineers sent down by the Government to examine into the affair are understood to be well disposed towards the great company; and the prefect and other departmental authorities are also in their favour. It is, therefore, almost certain that it will come triumphantly out of the battle with which it is threatened in the Chamber of Deputies.

The directors of the Forges et Fonderies of la Dordogne will pay a dividend of 52 fr. per share for 1846, on and after 15th May.

I learn from Spain that the present Government is causing great attention to be paid to mining matters, and is believed to entertain the intention of bringing forward some measures for the better working of existing mines, and the discovery and working of new ones. I shall, perhaps, be able before long to lay before your readers some valuable information relative to Spanish mines.

A mine of rock salt has recently been discovered in the environs of Lemberg, in Gallicia. It is said to be richer than that of Wieliczka, which has hitherto been the richest in Europe.

"*St. Dizier, May* 6.—During the last week we received a fair number of orders. Parts of old bargains are beginning to be sent; most of them were forwarded on demand, but for some a formal summons had to be made. *Fers battus* keep at 875 fr. and 890 fr. for Paris, and 385 fr. for the province; *fers laminés* are at 820 fr. for the province, delivered at St. Dizier, and 400 fr. for Paris, delivered at the Port. St. Paul."

In a work, recently published on Algeria, the writer particularly insists on the vast importance of the mineral wealth of the country, and of the necessity of turning it to account without delay. He states boldly, that if the iron ores were properly worked, the supply of iron could be increased to such an extent as to prevent France from becoming what he calls "tributary to the foreigner." He also states, that there is, in some parts of the country, no lack of fuel—there being forests of immense extent. These assertions are not new; but I am very much inclined to believe that they are not true. If Algiers be so extraordinarily rich in ores—and ores of (we are told) the very best quality—ores equal to the best of Sweden—is it likely that even the French, slow coaches as they are, would have allowed 17 mortal years—the time they have been in possession of their African colony—to pass away without manufacturing one single ton of iron? True, our author explains, that the delay may be accounted for—1st, by the necessity of ascertaining that the ores were ores; and that was, of course, a formidable inquiry—requiring Heaven knows how many visits of how many engineers, and experiments and reports innumerable; next, by the necessity of ascertaining that forests existed, and that the trees in the said forests were really wood and not stone—to get at which facts, was a matter of no small difficulty, seeing that it required months of labour from the officers of woods and forests, and, of course, piles of reports and scribbling; and, lastly, by the necessity of ascertaining whether it would be cheaper to manufacture the ore into iron in Algiers, and bring the iron to France, or to bring the ore itself to France to be manufactured into iron. The last point appears to be more difficult of solution than the other two; for to this very day it has not been decided. And how, think you, are these good French folks trying to arrive at an answer to it? Why thus:—the Government has conceded the right of working the ores in one district to one company; and in another district, to another company. Company No. 1, is building furnaces in the most favourable spot it can find; and company No. 2, is waiting with folded hands until it shall see whether No. 1 will succeed or fail! That this is prudence, is undeniable; but it is the prudence of old women, and not of men, who have taken in hand a great mercantile speculation. No English company in the same position would act in the same manner, even if only one-half of what is said about the mineral wealth of Algiers be true. But, after all, it serves to show that the French themselves have not that blind confidence in the mineral riches of Algiers that they profess to entertain; and this fact is the more remarkable in their case, for it is one of their natural failings to rush headlong into anything that is new and unknown, especially when they labour under the delusion that they will gain a large return for their money.

The two companies to which I refer, is that headed by M. Bassano, and that presided over by M. Talabot; it is the former, which is now building furnaces. The district conceded to it is called La Mehoudja, and is said to be near to a river and to forests, and to be in the vicinity of good roads. The concession of M. Talabot's company is known as Ain-Moktua. In addition to these two companies, there is another which has obtained a concession of the copper mines of Mouzaias, in Algeria, but very little, indeed, is known about it.

The following details, relative to a few of the principal iron companies of France, are not without interest:—The number of shares in the Alais (Gard) Iron-Works and Coal-Pits is 2000; the nominal value of each share, 3000 fr.; the latest selling price, 2400 fr.: the number of shares in the Decazeville or Aveyron Iron-Works and Coal-Pits, is 2400—nominal value of each, 3000 fr.; present value of each share, 6000 fr.; Aubin (Aveyron) Coal-Pits and Iron-Works, 16,000 shares—each 500 fr.; Iron-Works of Allevard, nominal value of shares, 5000 fr.; Iron-Works of Allernance (Lot et Garonne), 1800 shares—value, 50 fr.; Iron-Works de la Dordogne, 2400 shares—nominal value, 1000 fr.; ditto Champagne et Ronchamp, 5200 shares; ditto of la Loire el de l'Ardeche, 800 shares—present value, 7440 fr.; ditto of Montataire (Oise), 400 shares—no sellers; ditto du Nord, 8000 shares—nominal value, 1000 fr.—latest price, 1100 fr.; ditto of Romilly, 220 shares—nominal value, 12,000 fr.; ditto of Riouperoux (Isère), 510 shares; ditto of Monceaux (Belgium)—nominal value, 1000 fr.—present price, about 1990 fr.; ditto of l'Esperance), 4000 shares, of 1000 fr. each.

The Zinc Company of Stolberg will hold a general meeting on 29th of May, at Aix-la-Chapelle.—*Paris, Wednesday.*

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BELGIUM.—From 1st January to 30th April, 1847, 2705 boats, laden with coal, passed on the Mons Canal; 1865 of them were destined for France.

A discussion, not without interest, has taken place in the Chamber of Deputies, relative to motions for obtaining a reduction of the tolls on coal and cast-iron conveyed on the canal of the Sambre, and for a general reduction of the tariffs of all the railways on such articles. Eventually all the amendments were rejected, and the bill containing the reductions recommended by the Government was adopted. In the course of the debate, it was stated that the coal pits are doing at present anything but a profitable business.

It is very probable, that the Government will shortly propose a reduction of the tolls and tariffs of railways on coals, coke, and cast-iron, destined for Prussia. Such a measure will have the effect of greatly increasing the exportation, and will be a graceful manner of acknowledging the concessions recently made to the iron, coal, and coke of Belgium and that country.

Nothing of the slightest importance, in connection with mining affairs, has occurred during the last week.—*Brussels, Tuesday.*

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THE COAL TRADE—ABERDARE.—Mr. Powell's colliers, working in the Duffryn pits, are not allowed to work more than a fortnight in each month, owing to the decreased demand for *smokeless steam coal* at the port of Cardiff; this circumstance, together with the general stagnation in the coal trade, will soon have a visible effect on the unwarrantable conduct of the working men of the Monmouthshire iron-works, in striking for higher wages, at a time when their own were at the highest point they have ever yet been, and their neighbouring brother workmen of the seaborn collieries nearly at a standstill.

CARDIFF.—The Rev. George Thomas, of Llandaff Court, is about erecting a powerful engine on his great mineral field for sinking in the synclinal axis, or trough, of the basin, for Coffin's far-famed coking coal; there are no less than *ten* other new collieries opening in the same valley (Rhondda) on the same peculiar coal, besides the resuscitated and greatly-magnified Newbridge Colliery.—D.

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PITTSBURG AND BOSTON COPPER HARBOUR MINING COMPANY.—We have received a report and accounts of the proceedings of this company, from which it appears, that the expenditure has been $88,757: calls received, $8356; worth of ore sold, $58,096: leaving a debt on the company of $330,660. To meet this, there is due on calls $31,260, leaving a balance in favour of the company of $699. From a statement of the assets and liabilities, there appears a balance, after every expenditure, and valuing all materials, &c., at a moderate estimate, of $65,269. In August, 1845, the Cliff Mine was discovered; it is situated in the side, or gorge, of a mountain, and showed the face of the vein, partially uncovered, 300 ft. above water level; it gives, upon an average, 12 per cent. for copper, with a trace of silver, and a profit of about $20 per ton. The mining territory of the company comprises three locations, two of which have as yet been little explored, while the Cliff Mine alone is expected to pay well.

The first stone of a new blast-furnace was laid a few days ago at Clay Cross, by the colliery company of that place.—*Derbyshire Chronicle.*

## GUN-COTTON—FURTHER EXPERIMENTS.

TO MESSRS. JOHN HALL AND SON.

GENTLEMEN,—Yesterday, further trials in blasting with the patent gun-cotton were made, at the Flaybrick Quarry, Birkenhead—a statement of the results is annexed: this quarry is now being actively worked, getting stone for the Birkenhead Docks, in busy progress—the stone is a freestone.

Mr. Brown, the resident engineer to the works, together with several gentlemen, accompanied me to the quarry, to witness the experiments—the results of which, I am pleased to state, fully satisfied all of them that the use of gun-cotton, for quarrying purposes, was eminently superior to that of gunpowder. In every instance the gun-cotton relieved from the bed large masses of stone, of a size best adapted for those works, or any of a similar magnitude—many of the blocks weighed from 4 to 7 tons. The few trials made in this quarry proved most satisfactorily to all present, that the amount of saving to the contractors—there being no waste or spoil—would be very considerable. JOHN F. WHEELER.

*Liverpool, May* 8.

EXPERIMENTS.

| Depth of Hole. *Ft. In.* | Diam. of Hole. *Inches.* | Distance from the face. *Ft. In.* | Quantity of Cotton used. *Ounces.* | Quantity of Powder used. *Ounces.* | Quan. of Stone Removed. *Tons.* |
|---|---|---|---|---|---|
| 5 0 | 2½ | 5 0 | Tube, 10 ozs. | — | 18½ |
| 4 7 | — | 5 6 | Tube, 10 ozs. | — | 17½ |
| 4 6 | — | 5 6 | Tube, 8 ozs. | — | 14 |
| 5 4 | — | 8 0 | Tube, 10 ozs. | — | — |
| 4 9 | — | 5 6 | Tube, 10 ozs. | — | 23½ |
| 4 2 | — | 6 4 | 8 ozs. | — | 14 |
| 4 2 | — | 5 0 | — | 40 ozs. | 8 |

*Liverpool, May* 7. [Number of Experiments made—7.] J. F. WHEELER.

## RAILWAY CAPITAL.

The following account of capital authorised to be raised by railway companies in the two last sessions of Parliament—the amount actually raised, and the proposed amount of capital in the bills of this session—is abridged from an elaborate Parliamentary paper, recently published:—

| | *Railways Opened.* | *Not Opened.* | *Total.* |
|---|---|---|---|
| Capital authorised to be raised by Acts passed during the two last sessions | £36,004,680 | £88,670,975 | £124,675,655 |
| Amount actually so raised | 11,860,108 | 16,459,912 | 28,320,020 |
| Amount borrowed and still outstanding | 14,342,299 | 1,534,522 | 15,876,821 |
| Proposed amount of capital in bills of the present session | 31,161,674 | 16,325,000 | 47,486,674 |
| Capital to be yet raised to complete the lines granted in 1845 and 1846 | 96,355,635 | | |

COAL AND IRON IN INDIA.—In the *Mining Journal* of the 10th ult., we gave some descriptive particulars of the coal deposits of India, the localities which they occupy, their qualities, contiguity to deposits of iron ore, &c. We have now to call attention to a *Report on Proposals for the Establishment of an Iron and Steel Manufactory in Southern India*, from Capt. Campbell, of the 21st regiment Madras N.I., who has so generally investigated the subject of the manufacture of iron in India. In these proposals he states, that high blast-furnaces can never be set to work to smelt the highly-magnetic oxides of iron which abound in Southern India, because the quantity of metal they produce (50 tons per week) is too great to find a ready sale, whence the large amount of capital sunk before a return could be procured, would be so great as to prove ruinous to the adventure. The large supplies of fuel requisite (nearly 100 tons per week) would quickly exhaust the vicinity even in the thickest of the Indian forest, and then it would be necessary to transport the fuel from a distance, which would materially increase the expense of the manufacture, even, perhaps, to such a degree as to render the furnace useless. He then proceeds to state, that in Germany and Styria a kind of furnace, called a "steuck often," was formerly used, when only a small quantity of iron was required to be made, in which an imperfectly-carburetted cast-iron was produced, which, not being fluid enough to run out, was removed in a lump by the door of the furnace, as in a "bloomery." In India, from time immemorial, a small furnace, almost the counterpart of the "steuck often," has been used as a bloomery furnace for smelting the magnetic oxides, and the good quality of the iron, when made by skilful workmen, is well known, and has frequently received the notice of authors. As charcoal can be procured in Southern India, in the forests of the vast extent of mountainous land, on the Eastern Ghauts, for about 3 rupees per ton—and as magnetic iron ore, abounding in the same localities, can be procured for about the same price—and as intelligent labour is cheap and plentiful—there is no apparent reason why the whole of the supply of iron and steel required by India could not be made in this country. It appears that circumstances had induced Capt. Campbell to devote his leisure time to the investigation of the principles upon which the results in the native furnaces have been produced, embracing the theory and products of combustion in the furnace; the action and combination of nitrogen; whether the ore is reduced by the carbon, or by the gases produced by the blast; the effects of the quantity of ore in charge; effects of proportion of ore to fuel; effect of silicious, aluminous, and calcareous earths introduced with the charge; causes which effect the malleability of iron; causes of conversion into steel; and composition of cast-iron. His experiments and their results have proved that in using furnaces, which afford masses of malleable iron, weighing between 2 cwts. and 3 cwts., he can produce malleable iron equal to the finest Swedish, in the form of rough blooms, for 35 rupees per ton, and when forged by hand hammers into rough bars for 60 rupees per ton. This calculation is where charcoal is used; but Capt. Campbell uses greenwood, which is charred by the combustion of the gases evolved in the blast-furnace, and the expense is thus really much less than the above estimate. The furnaces employed are much like the "steuck often," the process differs little from that commonly known, except in the very large volume of the blast employed, and in the peculiar manner in which the nitrogen of the blast is employed as an active agent, and the expense of a furnace capable of making 4 cwts. of iron per day is only about 5 rupees. By the plan the captain recommends, bar-iron might be delivered at Madras at 60 rupees per ton, where the worst English iron sells at 80 rupees, and good iron double that price. The whole trade of Madras might thus be supplied, as well as the trade to the coast, the Bay of Bengal, the Eastern Islands, and to Calcutta.

EAST OF SCOTLAND MALLEABLE IRON COMPANY.—In the *Mining Journal* of the 1st inst, we gave the substance of two letters, by A. Alison and H. Beveridge, Esqs., on the subject of the purchase of the Forth Iron-Works by this company, Mr. Alison being a principal proprietor and chairman of the East of Scotland Company, and to which sale Mr. Beveridge objected as a gross job. On the 30th April there was a general meeting of shareholders in the company, at Dunfermline, Mr. Alison in the chair, when a motion was proposed for the purchase of the Forth Iron-Works for 200,000*l.*—100,000*l.* in stock of the East of Scotland Company at par, 50,000*l.* in stock or cash, at the option of the directors; and 50,000*l.* to remain as a debt secured on the company; an amendment was moved, to the effect, that no resolution be come to until a written offer be made, and the engineer's report received; the motion was, however, carried by a majority of 211 to 190. Mr. H. Beveridge protested that the proposal was contrary to the letter and spirit of the contract of copartnery, and thus illegal; and he has since published a second letter, in answer to Mr. Alison's reply, which, as before stated, we noticed on May 1. In this letter he emphatically contradicts all the allegations in Mr. Alison's letter, and asserts that the statement as to assisting in carrying out the amalgamation, and, having said that the Forth Company were selling their works too cheap, are creations of his own brain. That what he did say was, that "if the Forth Company are making iron at 2*l.* 4*s.* per ton, I am astonished at the liberality of their offer, they must be making 30,000*l.* a-year, they ought to have asked 100,000*l.* more; but the absurdity lies in supposing that you are making iron anything like 2*l.* 4*s.* per ton." We cannot follow Mr. Beveridge through his very long letter, in which he certainly appears to have completely answered every explanation offered by his opponent, to have laid open the true state of the case, and shown to the world that, as he stated in his letter in last week's *Mining Journal*, it only requires the Malleable Company to be confined to their own proper business, avoiding all mad projects, and proposed amalgamations, to be as completely successful as the most sanguine could anticipate.

ENGINEERING.—A correspondent says,—"There is a new code of laws and regulations coming out immediately, with regard to engineers in the Government service, that will demand a much more respectable knowledge in the principles of engineering than is generally at present acquired, the salary being augmented to 16*l.*, 18*l.*, and 20*l.* per month, 13 months in the year, with a grade still higher, at 25*l.* per month, so as to induce the best talent to enter the service."—*Liverpool Mercury.*

# Original Correspondence.

## HYPOTHESES ON IRON.

SIR,—In the communication of "Ferreus," dated May 4, I do not see anything disagreeing with the results of analysis—although, at first sight, and without consideration, the examples he quotes seem to nullify the composition of some varieties of iron, as adduced by careful experiment. In the first place, he notices that if a quantity of pig-iron be fused in an air furnace, and the resulting fused metal cast, the casting will be white or hard metal—thus seeming to prove that carbon has been absorbed in the conversion, although, by a continuation of the fusion, malleable iron would be produced, which fully shows that some carbon has been gotten rid of, instead of more having been absorbed. That carbon in this case has been carried off, there cannot be the slightest doubt; and, although I have never analysed iron that has been submitted to this particular experiment, yet the result of the analysis must show a less quantity of carbon in the casting than in the metal before fusion, under the circumstances just detailed. In order to explain the above, I must make a few remarks on the behaviour of some kinds of iron when exposed to carbon, and when exposed to oxidating influences, and also state that, although white-iron contains more carbon than grey, yet the amount of carbon in white-iron may be very different in some particular samples, and even be less in some of white than in others of grey, as the following statements, from analysis, will show; yet the white-iron is essentially white, and the grey-iron grey, and the statement that I have already made, as regards white-iron containing a larger amount of carbon than grey, is perfectly correct:—

| WHITE-IRON. | GREY-IRON. |
|---|---|
| No. 1. 5·100 per cent. of carbon. | No. 1. 4·400 per cent. of carbon. |
| 2. 3·900 " " | 2. 3·500 " " |
| 3. 3·500 " " | 3. 3·000 " " |
| 4. 2·900 " " | 4. 2·600 " " |

The above numbers will sufficiently prove my position. It will be readily seen, that No. 1 white-iron contains the largest amount of carbon of the whole numbers, and there are numbers of the same iron each containing more carbon than corresponding grey-iron numbers, yet there are three grey-iron numbers expressing a greater per centage of carbon than one (No. 4) white-iron number. Now, it would be ridiculous to take either of the four numbers of each class, and say boldly that that number was the standard of its class; but the correspondence between the same numbers of each class is sufficiently evident.

Having shown thus much on this head, I will proceed to the behaviour of white-iron with carbon at a high temperature. If a piece of white-iron be fused in a crucible lined with charcoal, and kept in fusion for a considerable time, it will become converted into grey-iron, which grey-iron on analysis will be found to contain less carbon than the white-iron, which produced it. The action that here takes place I have explained in my letter of April 12. At the commencement of this letter, the action of air on grey-iron is shown—grey-iron by fusion in an air furnace becomes converted into white. Now, if the per centage of carbon in the grey-iron had been ascertained, it would be found that the per centage in the white-iron produced would be less. Now, having these data, I can go on with the explanation I have promised. "Ferreus," in the double fusion he adduced, seems to think that all white-irons must necessarily possess the same amount of carbon; that this is not the case, the analyses I have instanced will prove, and on this point hangs the whole explanation. Grey-iron fused in an air furnace loses carbon, and the resulting metal appears similar in every respect to the ordinary white-irons of the blast furnace; and, in fact, it is so. Grey-iron, which has lost a certain amount of carbon, the greater part of which is its combined carbon, as I have before proved; has a portion of the latter left as well as a portion of graphite (its distinguishing feature); and I have just shown that all white-irons need not necessarily possess the same amount of carbon; but that some may exist with a smaller quantity than others, and the smaller that quantity is, the nearer will they approach the state of malleable iron. This admitted, as I think it must be, the explanation is easy. The iron, when running out of the furnace, takes up, or dissolves, the remaining graphite of its former state, and the quantity being comparatively small, it cannot crystallize out (see my letter of April 12) to form grey-iron—so that the resulting mass must necessarily be white metal, or metal containing no uncombined carbon, the whole of that substance having entered into chemical union.

I will here suppose a case from the numbers I have already quoted:—Take any quantity of grey-iron, containing 4·400 per cent. of carbon, as No. 1 in the list, expose it to the action of a high temperature and air, and run out. If the resulting metal be now analysed, there is no reason why we should not find No. 2 white-iron, or any of the succeeding numbers of white-iron in the list—it may contain 3·900 per cent. of carbon, or it may contain only 2·900 per cent. of the same material. Again, expose No. 1 white-iron, containing 5·100 per cent. of carbon, to a very high temperature in a charcoal crucible, and the resulting mass will be a grey-iron; which may have the per centage 4·4 of carbon. From the above examples, it will be seen that analysis has created no contradictions, and that everything which correct analyses have yet done is to bear out all that is found in practice—that is, when they are not wrongly interpreted, or wilfully misunderstood, as they are by some prejudiced parties. "Ferreus" must not, however, think that I class him with such people; for all that gentleman's arguments, with which I have yet had to do, evince a strong desire for truth—a desire that every well wisher to a scientific cause cannot but applaud. The other case cited by "Ferreus" can, of course, be explained in the same way. Again, grey-iron, when cooled, suddenly, even when carbon cannot be obtained from any source whatever, is converted into white-metal. This, I think, can be readily accounted for. It is a well-known fact, that if a solution of any substance be cooled very rapidly, the substance dissolved cannot be obtained in regular crystals, but deposits in the state of an extremely divided powder—in fact, there is no time for crystallization. If we now place a solution of carbon in iron in this position, we can readily suppose that the carbon, being in such a minute state of division, may easily combine chemically with the iron during its solidification, and white-iron would, of course, result. This combination would necessarily be much hastened by the extreme division of the carbon, as it is well ascertained, that the reduction of any substance to an extremely pulverulent form greatly facilitates chemical action—it is for this purpose that all substances intended for chemical analysis are recommended to be very freely divided.

As regards Mr. R. Mushet's remarks on the peroxide of calcium, I can only refer him to my letter of last week—stating, moreover, that every reaction in the blast furnace (with which I am at present acquainted) may be explained without the peroxidation of calcium. There is not the slightest necessity to assume a case for which we have no precedent, when each change taking place can be readily accounted for by known and well-ascertained causes. The presence of metallic iron at a high temperature is sufficient to account for the metallization or deoxidation of the alkaline earths, as I have before shown, by which their metals become alloyed with the fused iron; and I must beg to differ completely with that gentleman, as to his assertion, that carbon cannot deprive oxide of iron of the whole of its oxygen—that is, supposing that pure oxide of iron is operated on. It is well known, however, that iron, as well as some other metals, cannot be reduced by charcoal alone when silicic acid is present—that is to say, when the metals exist as silicates, in which case the presence of a base, which has a greater affinity for silica than oxide of iron, is necessary; such a base is lime, which merely acts, as "Ferreus" states, by displacing, the oxide of iron taking its place and forming silicate of lime—so that, instead of having present, as in the first instance, silicate of iron + lime, we have silicate of lime + oxide of iron, which latter is then *completely* decomposed by carbon in the usual manner. It is perfectly true, as Mr. Mushet observes, that good metal cannot be obtained without the use of lime, even when *no silica* exists in the ore. Mr. M. forgets, however, that there are other bodies in the ore which require some matter to flux them—hence "the thick slaggy quality," I cannot say of "imperfectly-revived pig-iron," but must charge it to imperfectly-fused pig-iron; moreover, such a case as this is next to impossible to happen, for the coke employed contains silica, and the fused oxide of iron strips the lining of the blast furnace of silica, for few oxides have such a disposition to combine with silicic acid as that of iron, which body will take it from almost any source which may present it, provided there is no other body present which possesses for it a greater affinity. As I have just now hinted, in no common case can Mr. Mushet provide against the presence of silica, and hence he cannot do without lime, for the obvious reason I have already given. Again, there are very few iron ores, which are commonly worked, free from alumina, and, even if they were, they would take it from the walls of the furnace at the same time as silica was obtained; and, again, the necessity of lime not to be peroxidised, but to take part in an ordinary chemical decomposition,

and, by its presence, to form fusible compounds with certain substances, as alumina, &c., which are present. As regards the conversion of white into grey-iron, I can add my testimony to that of Karsten, that such an effect is produced. This is treated more fully at the commencement of this letter—indeed, I can see no reason whatever why Mr. M. should not credit it, for its formation seems so perfectly natural that the wonder is how it could be disbelieved.

Again, Mr. Mushet denies the existence of carburet of iron in white-iron; yet a few lines after he says—"When pig-irons are analysed, a portion of carburet is found in white as well as in grey-iron, because a portion of grey-iron is present." What are we to understand by this? Is grey-iron carburet of iron, and is carburet of iron a nonentity? I should be inclined to believe, that Mr. M. has in this passage penned that which he could not have intended. I can only again state, that each class of iron contains a carburet, in addition to which, in the grey kinds, graphite, or uncombined carbon, is always present. The fact of coke containing iron does not at all prove that the specimen of artificial graphite in my possession contains that metal, for pure graphite has been ascertained, beyond doubt, to be only a peculiar modification of pure carbon. JOHN MITCHELL.

*Hawley-road, May* 10.

## HYPOTHESES ON IRON.

SIR,—I am much amused by the humble deference which "Ferreus" pays to the opinions of Mr. Mitchell upon the subject of grey and white cast-iron. "Ferreus" seems to be aware, that there is something preposterous in the assertion, that white iron contains more carbon than grey; and yet he would yield up reason and common sense, and believe, when Mr. Mitchell's experiments are completed, that it is really so, if Mr. Mitchell says it is so: I would call his attention to the forcible reasoning of the latter gentleman upon the transparency of glasses. "The cause of this transparency," says Mr. M., "is, that a mixture of lime, alumina, and silica, in certain proper proportions, can be fused at a certain temperature, and that the fused mass has, for one of its essential characteristics, the property of being perfectly transparent." This is a logical deduction; the *cause* of transparency is, that the mass can be fused at a *certain* heat; and the *cause* of transparency is, that the fused mass possesses the characteristic of perfect transparency; in other words, the *cause* is the *effect*. It will require better reasoning than this to invalidate the established fact, that grey cast-iron *usually* contains more carbon than white cast-iron; whilst exceptions exist—inasmuch, that *some* kinds of white pig-iron contain more carbon than *some* kinds of grey iron. Thus, I possess specimens of grey cast-iron, containing 10 and 12 per cent. of carbon. Now, will any man assert, that white pig-iron ever contained such a per centage of carbon? Again, I have samples of grey iron, which contain as little as 1¾ per cent. of carbon; and some of white iron, which contain 4½ per cent.; but these specimens were produced from ores differing widely from each other in their characteristics. I could point out an instance where a blast-furnace, even when over-burdened, and running a scouring black cinder, produced nothing but grey iron; and "Ferreus" names another instance, with which I am familiar, of a furnace, with most perfect cinder, and a light burden, yielding nothing but white iron. In the former case, a very small alloy of carbon sufficed to stamp the iron with the characteristic of greyness; and, in the latter case, it was impossible to form a sufficient alloy of carbon to produce grey iron. Were experiments made upon true white and grey cast-iron, carefully prepared in the crucible, the fact, that grey iron contains more carbon than white iron, would be clearly established; but, whilst common pig iron is operated upon, nothing satisfactory can be determined upon this subject. Pig-iron being an alloy of white iron, grey iron, and steel, differing in its proportions in every district—in every blast-furnace, in every cast from each furnace—and in every pig of which each cast is made up. A mass of ironstone descends from the filling place towards the hearth of a blast-furnace; we will assume the mass to be a piece of hematite, the size of an egg. As the mass becomes heated, it parts with its water of combination—it descends lower, and the increasing heat expels a portion of the oxygen from the surface of the mass, converting a thin coating of it into protoxide; still, as the mass descends, layer after layer is protoxidised, and before the whole mass is thus converted, it has come down into the region of cementation, where the carbon begins to deoxidate and metallise layer after layer of the protoxide. The heat still increasing, the metallised surface begins to absorb carbon, and is converted into steel first—next into white iron—and, lastly, into grey cast-iron. Thus, whilst the outer concentric layers of the mass are composed of carbonated iron, the next layers are in the state of white iron—the next of steel—the next pure, or malleable, iron—the next protoxide of iron—and the inmost nucleus may still remain as a peroxide; but if the height of the furnace be sufficient to afford time for the thorough cementation of the mass, the deoxidation, metallisation, and carbonation proceed, until the whole mass becomes grey iron; and, reaching the point of fusion, drops into the hearth as grey pig-iron.

Should the mass, however, reach the point, or zone, of fusion, before the process of carbonation is complete, it will afford in fusion a mixture of grey iron, white iron, steel, and malleable iron; and, if not metallised to its centre, the protoxide existing there will afford a black glass of iron. Perfect carbonation being the most mature preparation of the ore, and the condition of oxide being its state of least maturity, the quality of the iron produced will be regulated accordingly; but can never be uniform, because the masses of ironstone are of various sizes, and the time for deoxidation and carbonation may suffice for the smaller pieces, and yet be insufficient to mature the larger fragments. When once the ore passes into fusion, deoxidation and carbonation are at an end; and, in whatever stage of preparation the iron existed, before fusion, grey, white, steel, or malleable iron, so it passes at once into the hearth, to form a mixed mass of pig-iron. When the burden of a furnace is unduly increased, a diminution of temperature is caused by deficient combustion, and carbonation at once ceases, malleable iron alone is produced, and the hearth of the furnace fills rapidly with this infusible substance. In a furnace working with a moderate burden, and producing foundry iron of the finest quality, there is still in the pig-iron a certain admixture of white iron, steel, and malleable iron; for, although the materials descending through the central regions of the furnace may have arrived at a state of perfect carbonation, ere they reach the zone of fusion, still a portion of those, which descend along the sides of the furnace, are exposed to a temperature, diminishing as they are the nearer to the sides, and the further from the centre, of the furnace—inasmuch that they reach the region of fusion in a state of imperfect preparation; and, as they drop into the hearth, they add their alloys of white iron, steel, or malleable iron, to the perfectly-carbonated grey iron, afforded by the central portions of ore. When a tuyere side works hot, a large quantity of these imperfectly-matured ores are acted upon, and a black cinder or glass of iron generally follows, until the irregularity, or obstruction, which has divested the region of greatest heat, from the centre towards the hot side, has ceased to exist.

In passing the blast, likewise, much of the iron is decarbonated, or even oxidised, which further tends to destroy all uniformity of quality in the pig-iron. In the crucible, when mottled iron is obtained, it is always observable, that the lower portion of the button, or globule, is the most mottled, and the upper part but thinly speckled, and nearly white. The reason is, that the portions of the assay next to the sides and bottom of the crucible, are exposed to the most direct action of the surrounding fire, and are more perfectly carbonated than the rest of the assay; they also enter first into fusion for the same reason, and their yield drops to the bottom of the crucible as grey or dark mottled iron—whilst the less prepared matter, entering into fusion, deposits upon this substratum a layer of white, or faintly-mottled iron.

"Ferreus" says, that grey iron, cooled in small masses, suddenly becomes white. This I have never observed, unless it is in contact with some moist substance—such as moulding sand; or some oxidised surface—such as that of a furnace bar or shovel. When cooled upon a dry brick, or polished surface of iron, it retains its greyness, when no thicker than a knife-blade. The most simple proof that more carbon exists in grey than in white iron is the following:—Take a given piece of white iron, of a given weight, and cement it in charcoal for a time, its weight is augmented, and it has become grey iron. What has it gained if not carbon? Take it again in its grey state, and cement it in iron rust, it will lose all the weight it had gained; and if the cementation is continued, it will lose some of its original weight, and be found in the state of malleable iron. What, then, has it lost, if not carbon? And if carbon be thus gained and lost, does it not follow that the quantity of carbon in white iron is less than that contained in grey iron? If an alderman, for his health's benefit, had sweated away in exercise 20 per cent. of his superfluous fat, could you persuade him, by analysis, that he was fatter than ever? Certainly not; and yet this is not less a truism than that grey iron contains more carbon than white iron. To "Scrutator," I offer the hint of malleablising cast-iron, and desulphurising it, by passing through a melted mass a jet of intensely-heated steam. Respecting the desulphurisation of ores in general, and especially those of copper and lead, my father is in possession of a process by which the whole of these metals can be revived from the roasted ores at one simple operation of smelting. This process is somewhat analogous to the French plan of separation, by a solution of iron; but involves the application of iron in its metallic state, and not in solution; and is infinitely more practical and economical. ROBERT MUSHET.

*Coleford, May* 10.

## HYPOTHESES ON IRON—CAST-STEEL.

SIR,—Being anxious for information on such an interesting experiment as that detailed by your correspondent, Mr. R. Mushet, I would be truly thankful to know, if he made use of a forcing pump, to inject the water into his cold-blast pipe?—and, if so, whether he kept a register of the precise quantities of water and air consumed during the period requisite to form the cast-steel at one operation in the blast-furnace? Because, being largely engaged in the steel trade, such information might turn out of incalculable advantage to the trade generally, as well as particularly to—

*Sheffield, May* 11. AN OLD FILE.

## HYPOTHESES ON IRON.

SIR,—I do not at all understand Mr. R. Mushet's letter of last week; but I will make one further attempt to elicit something useful, by asking, where is that blast furnace from which pig-iron is obtained *without the presence of a particle of silica?*—FERREUS: *May* 12.

N.B.—Mr. R. Mushet has acquainted us he is in possession of the experience of his father; I think it important we should not believe the crudities of the former are sanctioned by one who has been esteemed a high authority. So far from the absurd position, that time is more necessary than carbon to deoxidate oxides of iron, we find in Mr. Mushet, sen.'s experimental writings, there is no difficulty in producing fine grey iron, without the assistance of lime, or any earth, by mere fusion of the oxide with an adequate quantity of charcoal. The phantom of peroxide of calcium is thus no longer "necessary to account," &c.; therefore, Mr. R. Mushet may be pleased, perhaps, to permit it to cease to exist. FERREUS.

## HYPOTHESES ON IRON.

SIR,—I am glad to learn that the strange speculations on the peroxides of calcium, aluminum, &c., which have lately appeared in your columns, under the signature of Mr. R. Mushet, are not any of those ascertained facts so sedulously brought to light by the indefatigable industry of the far-famed Mr. Mushet, sen., who is said to have spent a long life in experimenting on iron and steel. If this had not been particularly pointed out by Mr. D. Mushet, jun.—whom I suppose from the name to be a relative—the letter in your Journal of the 8th inst., under the former signature, explanatory (?) of the peroxidation of calcium, would have caused one to fear that the strong mind of the celebrated metallurgist had, through the effect of years and infirmities, fallen into decay. PHILO-VERITAS.

*Sheffield, May* 11.

## ON THE MANUFACTURE OF IRON.

SIR,—It afforded me much pleasure to find that I had interpreted "Scrutator's" views correctly, in regard to the use of heated steam in the reduction of iron ore; and I think it probable that he would have plenty of converts to his opinions, if the question were studied with reference to the chemical affinities, and the action produced, through those affinities, upon the several matters present. That the plan followed by Mr. Mushet, in forcing the steam in with the blast, failed, is not surprising; but, even so, a certain effect was produced, which might have been used as an encouragement to perseverance, to discover under what modified circumstances the steam might be applied, so as to produce the effect desired. "Scrutator" suggested a very different application to that of Mr. Mushet, and a much more likely one to succeed—in fact, the steam should be so conducted into the furnace as to insinuate itself, as it were, throughout the whole mass, and incorporate itself with it; as it is this very incorporation, which is required to produce the mutual separation of the elements and their recombination in other forms favourable to combustion and to the effectuation of the object in view—namely, the production of iron free from sulphur. The mining term of gossan was adopted by me, because of the idea, which many have, that the gossan of our mineral veins was produced by the moisture acting upon the sulphurets, and, by decomposition, converting them into oxides.—GOSSAN: *London, May* 12.

## USE OF STEAM IN THE MANUFACTURE OF IRON, &c.

SIR,—Your correspondents, "Scrutator," "Gossan," and others, do not seem to be aware that your columns contain an advertisement for the sale of a patent, for the application of steam to metallic ores, under the title of "Rodgers's Patent for the Separation of Sulphur from Mineral Substances." The patent was taken out in 1843, but has not been worked, owing to the apathy of the smelters of the various kinds of ores, although no impediment is offered by the patent right, as regards terms, which would be moderate enough, either for sale or license. There is reason to believe that, if the process were adopted, it would be the means of improving the make of iron in point of quality, and also assist materially the reduction of copper and other ores; while, by the addition of some simple apparatus, a large portion of the sulphur, now allowed so pass away, might be saved. This part of the subject is peculiarly interesting to Ireland, which produces iron pyrites, or sulphur ores, in such abundance, as to render it a question of national importance.—J. P.: *London, May* 13.

## IMPROVEMENTS IN SMELTING IRON.

SIR,—Being connected with parties about to build iron furnaces, I am anxious to collect all the information I can as to the latest improvements in the erection and working of such. I expect to gain much from your columns. I regard the *Mining Journal* as a very valuable publication, since nothing can tend more to the advancement of science, and the correction of error, than the free interchange of ideas which you so liberally afford. I have heard the *Mining Journal* very much abused; but I imagine such can emanate only from parties holding a false position, and dreading exposure—it is these merely who fear free discussion. I have heard that something very extraordinary—in fact, wonderful—in the way of smelting iron, is either in operation, or about to be brought out, somewhere in Derbyshire. Can you, Mr. Editor, or any of your correspondents, give any information respecting it? I think the name I have heard is Yates, or Yeates, as the party bringing it out. If this should meet his eye, I should be glad to have some account from him, either through the medium of your columns, or, if not at present quite in a position to come before the public, by private communication, more especially if there should be anything novel in the form or construction of the furnace. From the numerous letters upon the subject, which have recently appeared in the *Mining Journal*, I see clearly that, even now in this age of advancement and scientific research, very little is actually known as to the true nature of smelting iron.—A. Z.: *Stamp Office, High-street, Swansea, May* 11.

## ON STEAM-BOILER EXPLOSIONS.

SIR,—In allusion to the remarks of your correspondent, "E. G.," on Steam-boiler Explosions, in which he has given a description of a force-pump, I beg to inform him, that I had not seen any pumps constructed on that principle. I should have imagined that the absence of the packing, which allowed the water to escape, would also have allowed the air to have entered the barrel of the pump, and thereby stopped its action—it being an extremely common occurrence to place a small air cock in the barrel of the pump, by the opening of which the pump's action is effectually stopped. I may mention here, also, what I consider a great improvement in the construction and simplification of feed pumps for steam-engines, which is now universally adopted in all steam-vessels on the Thames—this is effected by placing the cock (for shutting off or admitting water to the boilers) in the supply or what is commonly called the suction pipe, this effectually prevents any accident happening, which has often occurred when such cock is placed on the feed pipe leading to the boilers—at the same time regulates the supply, and effectually abolishes the old arrangement of escape-valves, &c. "E. G." has propounded a very interesting question, relative to incrustation of the boiler; I have noticed a somewhat similar occurrence in my own practice, of which I cannot however, I regret to say, offer an explanation; but should imagine that your highly-esteemed correspondents, Dr. Murray, Mr. Mushet, or others, whose communications I have often read with much interest, could forward to your Journal a solution, which would be, no doubt, as interesting to your readers generally as to "E. G." and myself: there are many facts yet to be ascertained, in reference to steam-boiler explosions—many absurd ideas to be refuted. I remember being present at an inquiry relative to an explosion of a steam-boiler, where the jury were arraigned by the principal of a firm interested who stated its sole cause was attributable to the culpability of the engine-driver, by allowing some of the tubes to get *red hot*—that thereby hydrogen gas had been generated, which gas being, according to this authority, 16,000 times decimal something (!) more explosive than steam, the accident had thus occurred. It was suggested, by a practical man on the inquest, that from the appearance of the tubes, which were constructed of *brass*, the boiler could not have been short of water—or strong evidence of the fact would have existed in the tubes themselves; and it was also mooted, that a paper on the generation of hydrogen gas from *brass tubes*, would have been interesting, if laid before the Institution of Civil Engineers, by the intelligent head of the firm where the unfortunate calamity occurred. Before concluding, I would recommend to the notice of "E. G.," who seems laudably interested in the important inquiry, that there is a form of valve in use in some establishments, consisting of a flat plate resting over the valve seat, which valve seat, instead of being constructed in the ordinary manner, is turned of a conical form, the plate forming the valve resting on the knife edge of such cone. In valves of this construction the possibility, alluded to by Mr. Mushet, of the valve remaining fixed in its seating, through the differing degrees of expansion of iron and brass, would be effectually prevented.—X. Y. Z.: *London, May* 10.

## SMELTING COPPER BY ELECTRICITY—NAPIER'S PATENT.

SIR,—In reply to the remarks of your talented correspondent, Mr. Mitchell, on the electrical nature of Mr. J. Napier's patent, I beg to thank him for his kindness; and, at the same time, to draw his attention to Mr. Napier's specification, published at page 63 of the present volume of the *Mining Journal*, which claims "for the application of iron, and an alkali in smelting the ores of copper, and water for the purpose of disintegrating and decomposing the mass formed by such application." This is the only one I have seen, and bears date of enrolment, Jan. 20, 1847, but does not make mention of any galvanic arrangements.

*Cornhill, May* 13. JOHN HOWSON.

## THE ELECTRIC TELEGRAPH COMPANY.

SIR,—We beg, as solicitors for the Electric Telegraph Company, to inform you, that a paragraph, which appeared in the *Mining Journal* of Saturday, May 8, announcing, "that the action brought by the Electric Telegraph Company against Messrs. Gamble and Nott, in the Court of Common Pleas, for infringement of patent, was decided in favour of the latter yesterday," is incorrect. The company's actions against Messrs. Gamble and Nott are not yet tried; and the decision of the Court of Common Pleas, to which you refer, was pronounced *in favour of the company*, on an interlocutory application of considerable importance made by the defendants, and refused by the court. WILSON AND HARRISON.

*Copthall-buildings, May* 11.

## RICHARDSON'S REVERSING WATER-WHEEL.

SIR,—I beg to thank those gentlemen who have favoured the *Mining Journal* with their comments on the reversing water-wheel, lately brought before the public as an improvement in machines of that description; and, at the same time, again repeat, that I always considered it to be more of a *revival*, than a new, invention. I have had a firm conviction, that a wheel of so simple construction, and one so likely to work well, must have, at some time, been in use, although I have never before seen or heard of one. I intend, however, soon to have one made for hauling on the gear-chain, at the Coombe Valley Quarry, and, when I find it in perfect working order, to give you an account of its cost of construction, amount of power applied, and duty performed. I believe there are many simple inventions, invaluable to works of this kind, that remain hidden, or are entirely lost, through want of publicity, which, if they were only known, would, in many instances, be the means of saving thousands of pounds. The *water-balance* mentioned last week by Mr. Walkinshaw, is a machine scarcely known among miners and quarrymen in Cornwall, although its great utility has often been well proved in Wales; he would, therefore, confer a great favour to many of your readers, by giving a detailed description of its form of construction, and also be the means of disseminating knowledge of a most useful character. C. RICHARDSON.

*Coombe Valley Quarry, St. Gurnett, near Boscastle, Cornwall, May* 9.

## A COLLEGE OF MINES.

SIR,—I am gratified to see, in the able letter of Mr. John Darlington, my hopes realised, and arguments advanced, to settle the project of Government mining. That letter states clearly those practical difficulties we all recognise; and to meet these, I will avail myself of a proposal made by your correspondent, "D." In the advocacy of Government inspection, he remarks, that the object might be effected at no greater cost than a tax of ¼d. per ton on all coal raised throughout Great Britain. This levy would produce an annual revenue of 150,000*l.*—a much larger income, I presume, than is possessed by any scientific institution in the world. One-tenth, or a ¼d. upon 10 tons, would produce 15,000*l.* a year; were this sum expended, not on a vain, unprofitable system of inspection, but on a mining college, we should be in possession of a machinery as honourable as advantageous. Deposited in its archives, authentic plans of every possible variation of mines, open to constant reference, would afford a body of information as useful as interesting—whilst we had a record of modes and improvements, agents would be trained in that *systematic conduct*—the absence of which, Mr. Darlington justly states, is a fertile source of our disasters. To use the language of a valued correspondent in the same Journal, "the working of coal mines must henceforth, as heretofore, depend altogether upon the experience, judgment, and energies of viewers and underviewers." Upon this point, practical men are agreed; and I should be only happy to lead the way, by contributing my farthing or mite, or whatever should be the voluntary impost, towards a great benefit to this nation. No *fear* of the results of a Government investigation—a motive some correspondents have attributed to some parties—could influence me; neither any hope of benefit; for the colliery attached to my iron-works is most simple; it is level dried, has no inflammable air, and the ventilation, according to the practice of the district, is self-sustained, by a ventilating-chimney on the rise, acting constantly without the aid of fire. I can have no motive but the satisfaction of forwarding a great improvement in which *all* our mining interests would take their share. In Mr. Gibbons's volume, which contains in one octavo sheet as much matter as I ever read in the compass, and touches on every point which can affect mining interests, the desideratum of a mining college is made a principal feature; and he states, justly, that such defect is a reproach to a country containing a greater amount of mineral wealth than any equal area in the world. The "fighting of the pits," which others, as well as Mr. Darlington, have alluded to, arises, I make no question, from the absence of contraction in the upcast, to give power against the impending column of atmosphere. When the furnace heat is lowered, the top of the upcast becomes so cool and motionless, that the air begins to fall to the rarefied part beneath, and reaches the fire by the shortest road, creating the down draught, so often seen in chimneys before the ascent of heat is established. I cannot conclude without noticing the modification of Mr. Gibbons's plan, advanced by Mr. Shepherd, in a lecture in Shropshire, and of which your last Number possesses a diagram. It is strange, when a good thing is offered, that men must be content to spoil it. The very language of the extract, as well as the diagram, is a perversion of Mr. Gibbons; and the only effect of the novelty would be, to keep a constant current down the upcast to the ventilating hole, and none whatever through the mines.—DAVID MUSHET, jun.: *Gloucester, May* 11.

## VENTILATION OF COLLIERIES.

SIR,—Permit me, through the medium of your columns, to thank Mr. Mushet, for his endeavours to defend my coal-machine from the shafts of ridicule; also, for the flattering compliment he paid to my remarks on the ventilation of coal mines. The jet of steam to which I alluded in my last, was thrown into the upcast about 16 ft. from that top of that shaft, and about 20 fms. from the top of the furnace. The return air was conducted from the workings up the engine-pit above 20 fms., by a brattice partition and cap-head, which communicated with a horizontal drift, about 20 yards in length, and terminated at the bottom of the 6 ft. upcast, at which place (the bottom of the 6-ft. upcast) the furnace was situate. The seam of coal was about 40 fms. from the surface, and was a wet seam. The seam next above it had been partially worked about 60 or 70 years ago, the goaf of which was liable to periodical inundations, from its being at the dip of several adjoining royalties, and through which passed the water-courses, or levels, from them. The water-courses had become choked by an accumulation of sedementary matter, and repeated falls from the sides and roof; and, altogether so delapidated, that they could not be reopened, so as to ef-

fectually liberate the water at any reasonable expense. This goaf, or waste, was only about 8 fms. from the top of the seam which was working, separated from it by a shale strata, with an occasional thin stratum of post, and through the vertical partings, or backs, of which the superincumbent water filtered.—Wm. Storey: *Benshaw, Gateshead, May* 6.

## ON THE VENTILATION AND WORKING OF COAL MINES.

Sir,—In Mr. Darlington's remarks, on the Ventilation and Working of Coal Mines, of the 21st ult., appear some grave charges against the suggestors of improved methods of working and ventilating coal mines. Amongst this class of suggestors, I appear, perhaps, rather conspicuously, having for years past endeavoured to devise improved methods, based upon scientific and economical principles, to work and ventilate our coal mines, and thereby improve the condition of the collier; to economise our coal-fields, and to benefit the public generally. As Mr. Darlington has attacked my plans in particular, allow me to say a few words in reply.—I shall not, Sir, allow myself to charge Mr. Darlington with the "folly of such remarks;" but, in a more charitable spirit, make a few candid observations on his letter. From the tenor of Mr. D.'s remarks, it would appear, that the process of working coal has kept pace with the progressive improvements in our other branches of arts and manufactures generally; and, therefore, we need not trouble ourselves with the introduction of anything new in the shape of machinery for working coal. I cannot admire Mr. D.'s views of economy, nor the patronage he bestows on scientific improvement. As a proof that much remains to be done in the economy of our coal-fields, I refer Mr. Darlington to Mr. Rogers's letter in your Journal of last week.

In the first paragraph of Mr. D.'s letter he endeavours to point out, in very general terms, the diversity of our coal seams, from which he concludes it is utterly impossible for any particular plan to be adopted in working and ventilating our coal mines. Proprietors of collieries may, and often do, establish a mode of working coal peculiar to themselves, or to a particular locality, except otherwise bound by the terms of their lease. Here, in this district, there is an invariable proviso inserted in the lease, to bind the lessee to work the coal according to the most improved methods in use in the Tyne and Wear districts. I never advocated the establishment of one particular system of working coal, *except by machinery*, as generally applicable in all cases; neither do I think any practical man would, who attaches any regard to his reputation. But, in the case of ventilation it is widely different. The principles of ventilation are based on the unchangeable laws of nature, and are equally applicable under all circumstances. In the one case man has the coal presented to him in a mass, on which he has to exercise his judgment and intelligence in extracting it by the most suitable means; but, in the other, the great Author of nature has given him an element in every waited suited to his wants, requiring nothing from his agency but skill to apply it. Seeing, then, that ventilation is the primary means of enabling the collier to work the coal, and is of general application, the mode of working, as far as regards system, is entitled only to a secondary consideration. But it must be admitted that, in cases where the want of intelligence has induced a bad system, or rather no system at all, it necessarily follows the ventilation must be bad also. The proper management of a ventilating current requires higher intellectual capacity than the mere getting of a piece of coal.

In the third paragraph, Mr. Darlington suggests, in detail, a mode of working a colliery—in many of which remarks I entirely concur, and in which he has anticipated me, and gained priority, only by stating them first to the public. From his remarks respecting the qualifications of his viewer, I must dissent; I am sorry Mr. D. cannot distinguish between a "gentleman" and a practical man. Interested motives may place a man in a situation, but I think the cases are few, indeed, where interest, without abilities, can keep him there. At the outset, Mr. Darlington only requires his viewer to possess a small share of book-learning—"reading and writing a little"—but, by-and-bye, he proposes to teach him trigonometry. Book-learning does not necessarily confer talents and ability; but, I would ask, whether would a cultivated, or an uncultivated, field be likely to produce the better crop?

In the last paragraph, Mr. Darlington alludes to the necessity of the education and moral training of the rising generation of colliers; the necessity has been admitted by all, and re-echoed again and again, from the Land's End to John o'Groat's; and I am only sorry, that Mr. D. has not been the first to suggest some practical scheme for effecting it; but the passage to which I beg more particularly to call attention is—"*It would be of no service to try to convince the present class of miners.*" Convince them of what? I suppose, to convince them of the necessity of placing a proper estimate upon their own lives, and their labour, their only property—the lives of their fellow-men—and last, though not least, the property of their employers. No service to try to convince them of all this! Have reason and argument failed to convince them?—if so, then, recourse must be had to compulsory means. When you give a man a naked candle to work by in a coal mine, known to generate fire-damp, you place in his hands a power, which you confess he is not able to control—a power to destroy his own life, the lives of his fellow-workmen, and the power to do damage to his employer's property, to the amount of many thousands of pounds sterling. In proposing to work coal by machinery and fixed lights, I would take the dangerous power out of the hands of the collier, and transfer it into the hands of one or two responsible men, who would have the entire control of the lights in the mine. In one part of Mr. Darlington's letter, he brands the suggestors of an improved method of working our coal mines with folly; in another, he bewails the utter hopelessness of any improvement being effected during the present generation of miners—remarks so inconsistent and contradictory are unworthy of his pen. I consider, if Mr. Darlington has proved anything, he has proved, that there *is* a necessity for an alteration in our present mode of working and ventilating our coal mines; and as he has been candid enough to condemn the present mode, and, also, the system which I have proposed, he, in all probability, has something new and superior to offer the public; those suggestions which he has made, contain in them nothing new, as far as regards working and ventilation. The passage I have quoted, conveys to my mind the idea, that we are to allow the present state of things to continue, till the present race of colliers die a natural death, or are swept off the stage of existence by explosions of fire-damp, caused by their own recklessness; if such be its import, humanity must shudder at the idea; but, supposing I have mistaken the true meaning of the passage in question, who amongst us would have the presumption, even if he had the sagacity, to venture to predict, that the next generation of colliers will be wiser, or easier, to "convince," than the present? The wise King Solomon was constrained to confess, that "he did not know whether a wise man, or a fool, was to come after him."

It is admitted by all, that experience is the best test to apply to prove any system; allow me to ask them, what are the results of the past experience of the 200 or 300 years during which coal has been worked under the present system? The results are, that hundreds—nay, thousands—of our fellow-men, have been sent into eternity by it—sacrificed, I say, at the shrine of recklessness, ignorance, and apathy; and yet, we are told this state of things must continue—yes, continue at least during the present generation. If the past, and (to our shame) the present system, which has been fraught with such disastrous consequences to life and property, has hitherto been allowed to remain a stigma on our national character, shall the intelligence and humanity of Englishmen still stigmatise themselves, by allowing it to continue for a period of 20, or perhaps 30, years to come? The bare idea of such a thing appears to me quite preposterous. Government has not yet materially interfered with the working of our coal mines, but public sympathy is awakened; and if that most irresistable power—the voice of the people—be once raised against the evil, we may take it for granted, Government must and will interfere.

Mr. Darlington, in speaking of the "folly" of suggesting new methods of working and ventilating coal mines, intimates, that the suggestors should defray the expense of the experiments they propose to make. This they would not object to on certain conditions; for it is a rule in equity, which has long obtained, that those who reap the benefit, ought to bear the burden; and, on these grounds, I beg leave to make one proposition to Mr. Darlington. I question much that his collieries return him an interest of 10 per cent. in the shape of clear gain on the capital invested; but, admitting that they return him even more than this, if he will enter into an agreement for three or five years with me, and allow me to introduce my "suggested plans," I will guarantee him *double* his present profits, whatever they may be, during the whole period, on condition that I receive the remaining portion of *clear gain* during the same period—out of which I will discharge the expense of trying the experiment of working his collieries by machinery and fixed lights, and will leave them in a good working condition at the expiration of that period. I would ask no other remuneration for my services than the surplus left after defraying all expenses. I think this is the most effectual method of putting down the cry of the "utter impossibility" of introducing machinery, &c., to work coal to advantage, and to induce coal proprietors to throw off that apathy which has so long acted as a drag upon the coal-trade. I consider that energy and perseverance are all that we require to establish a better state of things.—William Storey: *Benshaw, Gateshead, May* 12.

## COLLIERS' STRIKE—SMALL COAL.

Sir,—I have observed, in your last week's paper, a letter from Mr. S. B. Rogers, of Nanty-y-glo, stating, what a wasteful and neglectful practice it is, to allow the small coal to remain in the "gobbing;" I should feel much obliged to him, if he would inform me, what he would do, if no sale could be procured for it? Would he turn it out for the benefit of the colliers, and not for himself? *Here*, sufficient sale cannot be found to pay for even the smallest quantity turned; besides, if a profit could be got out of it, he may make himself sure, that the proprietors of the collieries would not allow it to remain in the gobbing—they look after their own interest rather better.—A Constant Reader: *Clay Cross, Chesterfield, May* 12.

## STEAM VENTILATION.

Sir,—Your correspondent, Mr. William Radley, is in error, when he states his father to be the first who employed steam for ventilation. Mr. Buddle, in his letter, published 34 years ago, to Sir Ralph Milbanke, states he had then tried steam as a ventilating power; but it was not by the *force of its propulsion*, as recommended by Mr. Gurney, but, simply, its rarefying power, which was not satisfactory. They are two different principles; and the mode of applying it by Mr. Gurney is almost of itself a principle.—Veritas: *Newcastle, May* 10.

## Dr. MURRAY AND Dr. CLANNY—TALC FOR LAMPS.

Sir,—That there is a precipitation of soot upon a tale cylinder within the wire gauze of a safety-lamp, there can be little doubt—just as little as that there is a precipitation of soot upon a glass cylinder wherever it is employed. Stephenson's lamp, extensively employed in the mines of the north, has its glass cylinder, which is within the gauze, frequently obscured; but the glass is cleaned, and soon put right, as I presume would be talc, if in other respects found suited to this purpose. Dr. Murray would confer a great boon on the miner if he could practically demonstrate the easy applicability of talc to lamps—1, its cost; 2, its pliability for a small cylinder; 3, its translucency; and 4, its power of resistance to heat and flame. The three first qualities require a little more precision than they have yet got in this matter; the 4th, is indubitable. Dr. Clanny should give Dr. Murray fair play in this matter, and rather rejoice at a prospect of improving his own and other pit lamps by Dr. Murray's genius. To-day, I accidentally learnt, from one of the parties deeply interested in Jarrow Colliery, that Dr. Clanny's lamp is not employed in that colliery, as was a little time ago published in the *Mining Journal* by Dr. Clanny, but only Davy lamps; and that, since the explosion, they are working her altogether with lamps. They had a single lamp of Dr. Clanny's sent to them for experiment. This is far too important a matter for such statements, unbased as they appear to be, on this subject by Dr. Clanny; and he should be more particular, whatever his natural tendencies, of the sources of his information.—Veritas: *Newcastle, May* 10.

## VENTILATION OF MINES.

Sir,—The subject of ventilation of our mines I hope will not be the same as at other times, when these dreadful explosions have taken place—viz., a great sensation just at the moment of the accident, and which, in a very brief period, becomes forgotten, until another awful sacrifice of our fellow-creatures again refreshes the memory. Are we to wait for more of these explosions before any measures are taken? The Institution of Civil Engineers are of opinion, that Government interference will be of little use—yet, at the same time, that learned body do not seem to give any advice whatever. What is to be done? If the Government is not to interfere; the Institution of Civil Engineers do not interfere; iron and coalmasters do not deign to ask the opinion of scientific men; no apparent general interest for the safety of our workmen seems to agitate the scientific world—the only organ on this subject being your valuable paper. If the Government are not to interfere, the Institution of Civil Engineers are not to interfere, the ironmasters do not offer any remuneration to the public for the best method of ventilation, I beg to ask who, in the name of Fate, is to interfere?—the members of our Mining Institution will not take it in hand. The subject ought not only to claim the immediate attention of the Government, but every other body of men that has any knowledge of the laws of Nature. Are all the works to go on just the same as before?—and, when these dreadful explosions take place, are we only to hear a verdict of accidental deaths?—who is to blame? Oh! purely accidental; at the same time, coalmasters know their works to be full of this dangerous gas, and that their ground bailiffs in charge of the works are uneducated men—no knowledge of the laws of Nature, or anything else, more than practical coal-getting—and the 360° on the dial he uses for dialling the works—the minutes and seconds of the same instrument he is totally ignorant of—and his salary, perhaps, not much better than that of a London shopboy. Are our poor colliers and miners to be further subjected to these disasters?—are they still to be scorched alive as martyrs at stakes?—or, if they escape the fire, to be suffocated in the carbonic acid gas, and no improvement whatever to be made, until the ground bailiffs and charter masters have received a suitable education to fulfil their offices. Surely, this is not the voice of Nature and Christianity—this is not the voice of the widow and orphan, who are thrown on the world without one ray of hope. I consider it would reflect very great credit on the Government to interfere—a great deal of public good would be the result:—an examination ought to be made—every ground bailiff ought to be examined by Government officers, as to the nature of his education, and the extent of his knowledge of ventilation generally. If an examination like this were made, very few, I am afraid, of the present ground bailiffs that have charge of these works, whose education would be found anything but creditable to their employers; I do not wish to hit too hard, but I speak from facts. My opinion, then, is, that if the Government will not interfere with the working department of the mines generally, they certainly ought to prohibit the employment of igrorant ground bailiffs, and cause competent men to fulfil those offices. If the Government will only do this, they will do a great deal, and much good will be the result. Again, what improvements are we to expect, so long as these offices are filled by such people—although they are very good men, as far as their knowledge goes? This suggestion I beg to make to all proprietors of mines is, and it certainly would benefit every one—viz., to engage a practical engineer, to visit the works about twice per month, or even monthly—to make surveys and plans of the works, which could, at any time, be referred to when required—to examine personally the general state of the workings, the state of ventilation, &c. G. S., C. E.

*London, May* 12.

## VENTILATION OF MINES.

Sir,—In your Journal of last week is published a notice of a lecture, delivered by Mr. G. Shepherd, C.E., at Lawley Bank, Shropshire, in which it is asserted that the air will go the shortest way in mines. Now, Mr. Editor, please to notice his upcast shaft, with a flue going out of the side of it, 80 feet below the top, and leading to a chimney and fire-place on the surface. Will not that chimney, fire-place, and flue, make a downcast shaft of that he calls his upcast one, at least down to the bottom of the flue? Will not the air from the surface of his so-called upcast pit go down to the flue, and then up the flue and chimney, that being the shortest way, and not into the mine at all, thus very much baffling the circulation of air through the mine?—T. Deakin: *Bluenavon, May* 12.

## VENTILATION OF MINES—Mr. SHEPHERD, C.E.

Sir,—You have given a sketch in your last Journal of a plan for the better ventilation of mines, proposed by Mr. G. Shepherd, in a lecture delivered by him at Lawley Bank. As this is stated to be the first lecture on the subject that has ever been delivered in the mining district of Shropshire, I feel anxious that error should not darken the new light that is breaking on that favoured county; and, accordingly, beg to warn any who may be induced to give this scheme a trial of the certainty of its failure in practice. Mr. S., in one part of his lecture, observes, and that correctly, that the atmospheric current always goes in the shortest direction possible; and it is this very fact that will render nugatory his proposed plan. On this principle, the current of air, passing through the funnel and chimney, will always receive its chief supply from the top of the adjoining open upcast shaft, rather than from the bottom, where the air may have to be drawn through works of considerable extent, and offering many obstructions to its free passage to the shaft. Let Mr. Shepherd securely close the top of the wide upcast shaft, as represented in your sketch, and he then may obtain a permanent and powerful draught from the downcast, though still inferior to the furnace as employed in the north; but, if the scheme be carried out as it now stands, it will only result, after much expense, in disappointment, fraught with that very danger it proposes to remedy.—The Black Diamond: *Kilburn, May* 12.

## VENTILATION OF MINES—Mr. GIBBONS'S SYSTEM.

Sir,—In reply to Mr. Taylor's letter in your Journal of *May* 1, I beg to trouble you with the following, to show that he is not only capable of saying and declaring, or compelling those under his control to say or declare, anything in favour of the above system of ventilation, whether it be in contradistinction of the laws which govern aeriform fluids, or against the dictates of a man's own conscience. In answer to a paragraph contained in my letter of April 17—"Horrible and shameful to say, another explosion has taken place *since* the seven lads were burnt," &c.—he says, "This is a pure and unmitigated falsehood. As to another explosion, I have a voluntary declaration signed by the charter masters, doggies, and *every* man employed in the Yew-Tree Pits, indignantly denying that any explosion, or chance of explosion whatever, has occurred in the Yew-Tree Pits since the accident occasioned by Love, and which I also positively assert. I declare that no man has lost half an hour's work in the Yew-Tree Pits from any explosion, since the accident occasioned by Love." (23d March last.)

"I, Enos Hodgetts, of Lower Gornall, in the parish of Sedgley, in the county of Stafford, do solemnly and sincerely declare, that I am a collier, and have worked in the thick coal pits called the 'Yew-Tree Pits,' in the parish of Kingswinford, belonging to Mr. Gibbons, ever since those pits commenced working, which was about six months ago. On Wednesday, the 14th day of April last, an explosion took place in those pits, by which I was burnt upon my back, and the back of my neck. I left work in consequence of such burn, and did not return to it till the following Monday. I attempted to work on the Friday following the explosion, but was unable. I have heard it stated by one of the men in the pit, that Mr. Taylor, the bailiff, will give 5*l.* to any person that will make him acquainted of the individual who gives publicity to any occurrence which takes place in those pits; and I make this solemn declaration conscientiously, believing the same to be true, and by virtue of the provisions of an Act made and passed in the session of Parliament held in the 2d and 3d years of the reign of his late Majesty, King William IV., intituled, 'An Act to repeal an Act of the present Session of Parliament, intituled: An Act for the more effectual abolition of Oaths and Affirmations taken and made in various departments of the State, and to substitute Declarations in lieu thereof, and for the more entire suppression of voluntary and extrajudicial Oaths and Affidavits, and to make other provisions for the abolition of unnecessary Oaths.'

"Solemnly declared at Dudley, in the county of Worcester, before me, a Justice of the Peace for the said county, the 6th day of May, 1847. John Roberts." The mark of ⋈ Enos Hodgetts.

The above voluntary declaration, made by the sufferer, who is *still* in the employ of Mr. Gibbons, I presume, will be quite sufficient to show, whether what I advanced was a "pure and unmitigated falsehood," or not; and also will serve, to a certain extent, to expose that low, dishonest, and abominable practice of trying to compel his subordinates to declare and speak against their own conscience, for the advancement of his interest and *locus standi*. I would ask, why did he make continued inquiries of Hodgetts, as to whether he had been applied to by any party to know if he had been burnt? Did his conscience pinch him? did the injustice he had done me through your columns spur his bosom? And why did he, on the morning of Hodgetts making his declaration, before leaving the pit, try all in his power, by threats and otherwise, to persuade him to *deny* what he had the day previous acknowledged to me? Here is an example set him by one of his men, clearly proving the adage, that "if his hands were hard and horny, his heart was tender, and in the right place," and that he was justly sensible of his duty towards God and man.

If the system is intended for a national good, and is based upon sound principles, why need any cloak?—why need threaten to prosecute any of his men who speak of any occurrence or state of the pit, and offer 5*l.* for his apprehension in so doing?—and, should an explosion accidentally take place under the system, acknowledge it, and account for it honestly and faithfully; and not, as in the first instance, bring forward three sufferers from an explosion, to declare that "the system was not formed at the time of the explosion." Yet the pits were sunk under the system, and have continued working so ever since. In the second case, a man is sent to jail, there to await his trial for five months or more, for leaving his candle where it was the custom of the pit to do, which one of the dying lads, while being carried home by Hodgetts, acknowledged as being left by one for the other; and, when we take but a glance at the arrangement, it must be evident and reasonable to expect, that a collier having to climb up a hole 17 or 18 feet long (that is, from the gate-road up into the air-head), would be quite sufficient to exercise his ingenuity and skill, without carrying a light with him. And, in the third case, when told of another explosion, he tries all in his power to induce the sufferers, by threats and otherwise, to declare that no explosion has happened; and as to a declaration signed by *every* man in the Yew-Tree Pits, to say that no explosion has happened *since* the seven lads were burnt, is flatly contradicted by Hodgetts, who says, all that he has done is to make his ⋈ on a piece of paper, which he believes goes to say, that there is no better way of ventilating a pit. I presume *no* gas ought to be found, or accumulate, under the system, if it really is as represented by Mr. Gibbons, especially when "Mr. Taylor, with the assistance of an underbailiff, devotes 12 hours every day to it." Query: Is it not *overrated* and *overdone?*

With respect to Mr. Gibbons's *principle*—not system—being in use at Mr. Williams's colliery at Oldbury, it is true; but the impression on my mind at the time I wrote was, that neither principle or system were in use, as my informant was a party who descended the pit in question probably twenty times oftener than Mr. Brettell; but the mode of ventilation is made of so little moment by most parties who go underground in South Staffordshire, that it was on these grounds it escaped his notice; but a description will show how far it is consistent with Mr. Gibbons's system. According to the charter master's own words, there is one *single* shaft, 38 ft. area, 80 yds. deep; the underground workings extend 150 yds. from the pit bottom; ventilating chimney, 6½ ft. area, and is connected with a stack at surface, 7 ft. high, *above the level of the shaft*, and is 6½ ft. area; therefore, after all has been said to make it appear Mr. Gibbons's system, I think your readers will arrive at the same conclusion as myself, that the 7-ft. stack is but an indifferent imitation of Mr. Gibbons's 90 ft. But allow me to ask this gentleman (who, when authenticating the above application, had not the confidence to term it the Gibbonian system, but sought to apply rather a round-about term to it), what caused him to have 6 ft. more of new brick work put on the top of the old stack, *immediately after* I announced that the system was not in use at this pit? Was he ashamed of it, or was he afraid that it would not be findable in its then state? Surely it must be one or the other. Probably this gentleman means the other pits to be acting on Mr. G.'s system; yet I am at a total loss to identify it with any mode yet in use: there is, certainly, something novel about it. Two shafts of the joint area of 72 ft. are the downcasts, and one of 38 ft. the upcast, which lies *below* one of the downcasts; this upcast is arched over, and is connected with a stack of 6½ ft. area, the summit of which is 8 ft. *only* above the top of the arch; no ventilating groove is here made use of; the upcast is connected with the stack by means of a culvert, or channel, cut horizontally from the shaft, so that the whole of the air has to make a turn at right angles, and then be passed through an area of 6½ ft. It must be remembered, that this gentleman was one of the inspectors over the late Oldbury explosion—consequently, one to recommend greater area in underground air passages,—yet he here makes 6½ ft. *area the outlet for* 72 ft. *area inlet.*

I consider, Mr. Editor, this gentleman's statement (who is a regular *employée* of Mr. Gibbons's) is about on a par with his other statement, where he authorises Mr. Taylor to say, that I was brought up under his tuition, and that he turned me out at the expiration of five years' apprenticeship, *quite ignorant;* this, as a matter of course, must be very meritorious and creditable to *him.*

I am totally at a loss to know where Mr. Taylor, for the *first* time, exposed my "reckless mendacity," or can find any "coarse language employed." If he will have the goodness to point them out, they shall receive due notice; and if the blows which the "youth" has dealt him have been too severe, I cannot help it. I am glad to see, Sir, he has invited the inspection of the Newcastle viewers; but, doubtless, he will find them "too far north" to be enticed across into South Staffordshire by his bait. Yet I hope some of them will honour the Yew-Tree Pits with a visit.

The latter part of Mr. Taylor's letter of last week is particularly deserving of attention, where he observes: "I think that the rapid currents and great supply of air, so indispensable in the Newcastle coal, cannot be made use of to ventilate our large cavities with safety or effect, and that a different system and less quantity of air are necessary, which we are obliged to regulate by the size of the air passages." What a slippery gentleman this is, Mr. Editor, to be sure! how he creeches under the lash! If a 6-ft. coal gives off 50 barrels of gas per minute, how many barrels would a 30-ft. seam give off? Mr. Gibbons observes in his pamphlet, that he having found out means to ventilate our 30-ft. coal, it would be quite presumptuous on his part, to detail means to ventilate a thin seam. He further observes, "What comprehends the greater, must be superfluous for the lesser;" and not, as he further observes, like the country gentleman, who having "provided a hole for the cat, deemed a second one necessary for the kitten;" but I think Mr. Taylor has made a good attempt to provide a hole for his worthy master to creep out of here.

It is not, I presume, Mr. Editor, for us to put at defiance, or attempt to improve upon, the laws of Nature: if so, we must endure the consequences, or become a witness to our own futility. I hope Mr. Taylor, in his next letter, will not talk of the "indecency" of entering into matters as to Love's commitment, or sympathise with him as to his situation, who is suffering to save others. It puts me in mind of the "wolf in sheep's clothing." I would here ask this sympathising gentleman, if he has forgot returning from the sixth inquest? It will not do to speak of it here, but you will probably have an opportunity of hearing of it from the "gentlemen of the long robe," at the forthcoming assizes. With many apologies for the space taken in this reply, but which the nature of the very *true and complimentary* letter of Mr. Taylor demanded, I shall for the present say farewell.

*Dudley, May* 10. Henry Johnson.

## THE ACCIDENT AT THE YEW-TREE COLLIERY.

Sir,—A collier of the name of Enos Hodgetts, employed in the Yew-Tree Pits, has called upon me to say, that a *constable* of Dudley, without any legal authority, sent by Mr. Henry Johnson, had taken him to make a deposition respecting a slight *flush* of gas on April 14, in the Yew-Tree Colliery, which proceeded from the old workings of an adjoining colliery, which had trespassed on the coal belonging to the Yew-Tree estate. He is an extremely ignorant and illiterate man, and does not seem to know what he stated, or what he did not. Should such a deposition be published, may I be permitted to request you to insert these few lines in your Journal, and bespeak your indulgence, and that of your readers, until I shall have the opportunity of stating the facts of the case.

*Kingswinford, May* 12. M. Taylor.

[We fear this discussion is assuming too personal a character to be interesting to our readers, and should feel obliged if, in future communications, all reference to individuals is omitted: as, while a full development of the *principles* of ventilation, and the best methods of working collieries, is calculated to be of the utmost possible advantage; yet, on the other hand, *personal disputes* are not only objectionable in themselves, but detract much from the value of interesting information, with which those communications are frequently interspersed.]

Quicksilver Mines of Spain.—Among the estimated sources of revenue income for 1848, by the Spanish Ministers, is 32,682,000 reals, as the produce of their quicksilver mines.

A Certain Cure for a Deranged Stomach by Holloway's Pills.—E. Evans, a person for many years employed in the Dowlais Iron-Works, near Merthyr, had been suffering for a length of time with so disordered a state of the stomach, and had become so weakened in body that he was frequently laid up for weeks at a time—indeed, the poor man was not expected to rally again at the time he commenced the use of Holloway's pills, which, however, to the astonishment of all who knew him, effected a perfect cure. This is more than six months since, during which time his digestion has never once been deranged. Sold by all druggists: and at Professor Holloway's establishment, No. 244, Strand, London.

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## LLANCYNFELIN MINING COMPANY.—At the Second

Annual General Meeting of shareholders, held at the offices of the company, 44, Finsbury-square, on Friday, the 7th day of May inst.,

PETER STAINSBY, Esq., in the chair.

The report of the directors having been read, it was

Moved by P. Stewart, Esq., and seconded by James Peirson, Esq.,

That this meeting recommend the present prosecution of Jones's adit and Fearon's shaft; also the returning the halvans now on the mine.

Moved by W. Fawcett, Esq., seconded by A. W. Fearon, Esq.,

That a competent gentleman be engaged to report fully on the present state of the mine and its future prospects; also, to give an estimate of the value of the materials and property now on the mine, in conjunction with Mr. Johnson.

PETER STAINSBY, Chairman.

Thanks were then passed to the chairman, and the meeting adjourned.

44, Finsbury-square, May 7, 1847.

## WHEAL ANDERTON MINING COMPANY.—At a Meet-

ing of adventurers, held at the Royal Hotel, Plymouth, on Monday, 3d of May 1847.

T. W. LISCOMBE, Esq., in the chair,

It was moved by Mr. P. Fisher, and seconded by Dr. Yonge,

That the accounts having been examined, and found correct, be, therefore, passed.—Carried unanimously.

Resolved,—That the report of Mr. J. Hitchins, also that of Capt. Carpenter, having been read, such are considered very satisfactory to this meeting.

Resolved,—That a call of £2 per share be now made, for the liquidation of the debts, and further prosecution of the mine—to be paid Capt. Carpenter immediately.

Resolved,—That Capt. Carpenter be requested to begin sinking the engine-shaft toward the 70 fathom level at the earliest possible period.

Resolved,—That five adventurers be appointed auditors of the accounts previous to the next meeting—namely: J. E. Mare, H. Seaman, P. Fisher, J. Foy, and J. Paull.

## WHEAL CONCORD MINING COMPANY.—At a Special

General Meeting of the adventurers, held at the offices, 4, King-street, Cheapside, on Tuesday, the 11th of May, 1847, for the purpose of determining on certain objects, stated in the circular convening the same,

HENRY ENGLISH, Esq., in the chair.

The minutes of the preceding meeting having been read,

It was resolved,—That, in consequence of the number of adventurers present being very limited, the meeting be adjourned until Saturday, the 15th inst., to meet as above, at Twelve o'clock at noon precisely, when it is requested the adventurers will attend, on matters of important moment connected with the undertaking.

Callington, May 12, 1847. G. W. SNELL, Purser.

## GENERAL COMPANY FOR PURCHASING AND

CLEARING THE WASTE LANDS OF FRANCE.

Under the auspices of the Minister of Commerce and Agriculture, and honoured by the concurrence of the Peers of France, Deputies, and the leading Agriculturists.

*SOCIETE EN COMMANDITE.*

Created under the joint-company of L. G. MAGNANT & CO., according to the agreement entered into before M. Fould, notary at Paris, the 19th December, 1846.

Social, or joint, capital 20,000,000 fr. (£ 800,000), divided into 200,000 shares, of 100 fr. each (£ 4); one-half of the capital (10,000,000 fr.) is only called for, as it is stated in the Tenth Article of the Act of the Company.

The shares will be payable (£ 2) by fifths, from month to month, and will bear interest at 5 per cent. per annum, payable half-yearly. The capital is secured by the lands purchased for the profit of the company. The sums arising from the sale of shares will be deposited at the Bank of France, within three days after being paid in, and cannot be withdrawn, but for paying off the purchases, and the necessary expenses for the improvement of the acquired lands, and that only under the signature of the chairman and two members of the council of management. The company has entered into a negotiation for the concession of the Marais (fen) of Contentin, the property of Louis Philippe. The company will be constituted by the subscription of 40,000 shares, that is 2,000,000 fr.

COMMITTEE OF INSPECTION, OR MANAGEMENT.

COUNT DE SCHRAMM (Lieut.-General), Peer of France, Councillor of State, Knight Grand Cross of the Royal Order of the Legion of Honour—chairman of the committee.
BUGEAUD (Marshall), Duke d'Isly, Governor-General of Algeria.
BARON DE SCHAUEMBOURG, Peer of France, Grand Officer of the Royal Order of the Legion of Honour.
COUNT GUY DE LA TOUR DUPIN.
M. GENTZ DE BUSSY, Councillor of State, Member of the Chamber of Deputies.
M. MATHAZ DE FOGERES, Member of the Chamber of Deputies.
COUNT DE LANTIRY, Consul of France at Brémen, formerly Prefect, and formerly the French Consul at Jerusalem.
M. LENAIR, merchant and shipowner.
LEFEVRE (Elysée), Editor of the Agricultural Bulletin of *La Presse*.
REGNAULT DE LA SOUDIERE, late Receiver-General of Finances.
VISCOUNT NOGUES, Chevalier of the Legion of Honour, Agricultural Proprietor.
MARQUIS OF ROSTAING, Chevalier of the Legion of Honour.
COUNT DE LA TOUR D'AUVERGNE.
BARON TREMAULT, Chevalier of St. Louis, Proprietor.

COMMITTEE OF AGRICULTURE.

LEFEVRE (Elysée), Editor of the Agricultural Bulletin of *La Presse*.
EDOUARD DUBAC, Agriculturist.
VERDIER, Agricultural Proprietor.
VISCOUNT NOGUES, Chevalier of the Legion of Honour, Agricultural Proprietor.
DE PLEVILLE, Agriculturist.
REY DE MORANDE, author of the New Theory of Vegetation.

COMMITTEE OF ART AND WORKS.

DE MOLEON, formerly Pupil of the Polytechnic School, Civil Engineer, Chevalier of the Legion of Honour, &c. &c.
PARETO, Civil Engineer.

JUDICIARY COUNCIL.

BERRYER, Advocate, Member of the Chamber of Deputies.
ROYER-COLLARD, Dean of the Faculty of Law of Paris.
FOULD, Notary.
DELACOURTIE, Advocate at the Royal Court.
MOUILLEFARINE, Advocate of the First Instance.
DURMONT, attached to the Tribunal of Commerce of Paris, Chevalier of the Legion of Honour.
FIEVEE, Chevalier of the Legion of Honour, Government Engineer, charged with the composition of the *materiel* of the company.

BROKER OF THE COMPANY.—M. BOILEAU.

*The Company will be constituted on the 31st of May next.*

France required more than in one point the creation of a company such as that which has just been formed, under the direction of a man who has studied during 15 years all the great questions relating to this vast national undertaking. The moment has arrived to reassure the country on the fears which the continued high price of grain too much justifies. It is to this work—as great as it is requisite, as certain as it is profitable—that we invite the attention of all men of intelligence and capacity. Here every thing has been studied and seriously matured; the price of shares even, is a proof of what we set forth. Therefore, we were desirous that a company, founded above all in the interest of the MASSES, should doubly profit in MASSES; it was then that we agreed that our shares should be 100 fr. (£4), only half of which sum is called for by fifths, from month to month—so that the labouring man, who every week takes the produce of his savings to the savings bank, might find in our company an interest more in connection with his wants, above all, in consequence of his small capital. We will say nothing of the security which our company offers; the names of the honourable men who form the committee of management, speak high and loud, and the undertaking itself will cause the social stock to quintuple in a short time. Lastly, the guarantees which we offer to all, repose on the purchased soil becoming the property of the shareholders. Very important concessions of lands are already offered to the company. The statutes of the company are distributed free, on a written application to the administration. The shares are subscribed for at the offices of the company, 51, Rue de la Madeleine; for the provinces and abroad, the applications must be sent free of postage, with a written engagement, and the first fifth, by a post-office order, or an order at sight on Paris.

## SIR JAMES MURRAY'S FLUID MAGNESIA.—Prepared

under the immediate care of the inventor, and established for upwards of 30 years by the profession, for removing BILE, ACIDITIES, and INDIGESTION—restoring APPETITE, preserving a moderate state of the bowels, and dissolving uric acid in GRAVEL and GOUT; also as an easy remedy for SEA SICKNESS, and for the febrile affection incident to childhood it is invaluable.—On the value of magnesia, as a remedial agent, it is unnecessary to enlarge; but the fluid preparation of Sir James Murray is now the most valued by the profession, as it entirely avoids the possibility of those dangerous concretions usually resulting from the use of the article in powder, and in the over-dosed liquids of detected imitators.—Sold by the sole consignee, Mr. Bailey, of North-street, Wolverhampton; and by all wholesale and retail druggists and medicine agents throughout the British empire, in bottles, 1s., 2s. 6d., 3s. 6d., 5s. 6d., 11s., and 21s. each.

The Acidulated Syrup, in bottles, 2s. each.

N.B.—Be sure to ask for "Sir James Murray's Preparation," and to see that his name is stamped on each label, *in green ink*, as follows:—"James Murray, Physician to the Lord Lieutenant."

## ON NERVOUS DEBILITY & GENERATIVE DISEASES.

—Just published, the Thirtieth Thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical coloured engravings, "MANHOOD: the Causes of its Premature Decline, with Plain Directions for its Perfect Restoration." A medical essay on those diseases of the generative organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in Youth, Manhood, and Old Age; with practical remarks on marriage—the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino-genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.

By J. L. CURTIS and CO., Consulting Surgeons, 7, Frith-street, Soho-square, London.

REVIEWS OF THE WORK:—"'Manhood:' a medical work. To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions, whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health."—*Chronicle*. "We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, a preceptor, or a clergyman."—*Sun, Evening Paper*. "Curtis on Manhood should be in the hands of youth and old age. It is a medical publication, ably written, and developes the treatment of a class of painful maladies which has too long been the prey of the illiterate and the designing."—*United Service Gazette*.

Published by the authors, and may be had at their residence; sold also by Strange, 21, Paternoster-row; Hannay, 63, Oxford-street; Mann, 39, Cornhill, London; A. Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool: Campbell, 146, Argyle-street, Glasgow; Robinson, 11, Greenside-street, Edinburgh; and, in a sealed envelope, by all booksellers.—Messrs. Curtis and Co. are to be consulted daily at their residence, No. 7, Frith-street, Soho-square, London; and patients can have this work privately forwarded them, by initial or otherwise, to any part of the United Kingdom, direct from the authors' residence; or from any of the above agents, on remitting 2s. 6d. in postage stamps.

## PERRANZABULOE SILVER-LEAD MINE COMPANY.

(ON THE COST-BOOK SYSTEM),

In 512 shares.

BANKERS—Sir J. W. Lubbock, Bart., and Co., 11, Mansion-house-street.

SECRETARY—Mr. W. H. Smith.

*OFFICES—No. 10, WARNFORD-COURT, LONDON.*

This mine is situate on the well-known mineral Penhale estate, in the parish of Perranzabuloe, in Cornwall; and, during its last working, has had the advantage of a beneficial outlay of capital, to the extent of at least £18,000, chiefly in underground works and operations. By means of this outlay, the permanent riches which this mine contains were fully established by the increase of its returns in 1831, from 7 tons per month to 50 tons at the time of its suspension; and which event was ascribable to no other cause than that of unfortunate disputes—branching out of other matters in litigation between the then proprietors of the mine—added to then low price of lead.

At the time the above mine ceased working, it was not contemplated that its suspension would have been of any duration; and, owing to this circumstance, the underground materials and works were left in their perfect state for future recommencement of operations. To these benefits and advantages, which may be fairly estimated at a saving of £18,000 in capital, for works in a complete state, and of a period of five years in time in performing those operations, the present proprietors have become the lawful successors.

In the formation of the present new company, however, the lessees propose to admit of the accession of co-adventurers on terms of equal participation with themselves in all the foregoing advantages, and to place the mine in the hands, and under the management, of the said proposed new company, on the most satisfactory and liberal terms.

For this purpose, therefore, it is proposed to divide the mine into 512 shares; and it is calculated that the capital required to set the mine into complete operation, will be about £5000. The lessees consent to accept of £500 for their interest in the same, there being upwards of that amount of property now actually on the mine. The lessees propose taking 100 shares, upon which they will pay equally with the other adventurers.

£2 10s. per share, on the transfer of shares, will be required; and calls will be made, not exceeding £2 10s. per share, at intervals of not less than three months (of which one month's notice will be given), for carrying out the future operations of the mine.

A committee of management will be chosen out of the adventurers at their first general meeting.

Application for shares to be made to the secretary, at the office of the company, 10, Warnford-court, Throgmorton-street, City; where copies of the detailed prospectus, with report and plan, may be had; also at the office of the *Mining Journal*, 26, Fleet-street.

## ALBERT ADVENTURE—NOW IN WORK, ON THE

COST-BOOK PRINCIPLE.

In 1000 shares.—Deposit 5s. per share.

This LEAD and COPPER MINING ADVENTURE is situated in the parish of Gwinear, Cornwall, at about half a mile north-east of Alfred Consols, now a productive and very valuable mine. The extent of ground comprised in the Albert setts measures three-fourths of a mile along the course of the lodes, from the west to the east boundary, and one-third of a mile in breadth, north and south.

This ground has been long well reported of, as containing several lodes. The manager of the Great Wheal Alfred often expressed his opinion that extensive and profitable mining operations would be witnessed here.

Some years since a company was formed, and a mine was opened, under the name of "East Wheal Alfred;" an adit was brought into about the centre of the sett, and cross-cuts to considerable extent were driven; several promising lodes and branches were discovered; and it was unanimously agreed on, forthwith, to erect a steam-engine; the requisite shaft was sunk to about 18 fathoms; materials for building the engine-house were brought on the spot; shares were selling at advancing premiums; when, owing to certain disagreements amongst the parties concerned, further proceedings were abruptly stayed.

The operations of the said company, done at considerable expense, may be justly regarded as a valuable bonus to the new adventurers.

An efficient and encouraging inspection of the mine has been obtained; and, preparatory to ascertaining the most eligible position for the erection of an engine it is advised to drive a cross-cut, in order to the inspection of a lode in the south part of the sett, which was partially seen during the former working, and exhibited favourable indications near the surface.

An extract from the report of Capt. W. Paul, manager of the Tincroft and other mines in the neighbourhood, thus states, respecting the lode first cut by East Wheal Alfred adventurers, and thought to be a continuation of Great Alfred lode:—"This lode is two and a half feet wide; I consider it a kindly lode." And of the other lodes he thus reports:—"In the cross-cut north I discovered several branches, strongly mineralised. From one vein of lead I took some good stones, which, I think, contain silver. The north lode is 20 inches wide; contains mundic and lead, and is spotted with copper ore. I have a favourable opinion of this lode, as the branches and lodes to the south contain the same sort of mineral, and, from their inclination, will fall in with it in depth; indeed, the cross-cut, for several fathoms in length, is strongly mineralised, and the ground very cheap to excavate. Had there been no other lodes in the sett but those discovered, I think any company would be justified in erecting an engine of sufficient power to develope their resources."

Already the adit, the shafts, and cross-cuts, have been all cleared; a horse-whim is now erected on the main shaft; four men are set to drive south, to cut the extreme south lode, as advised by Capt. Paul; four others are opening on the lead branch, from which Capt. Paul selected the favourable specimens noticed in his report. Two men are costeaning at about 300 fathoms east of the present workings, where they have discovered some favourable strata, containing promising gossan and quartz.

A correct review of all the circumstances of this adventure, certainly justifies the necessary outlay to prove it thoroughly.

One plain and important fact should be specially regarded—it is this, that the north lodes incline south, and the south lodes north; and, from the west boundary, the direction of the lodes evidently indicates a junction in the eastern part of the sett. The presumption, then, obviously is, that, in depth and in extending east, a junction will be witnessed—the result of which probably will be, a valuable remuneration for the outlay made in the discovery.

£5000 may be required, for the necessary mining operations, effectually to prove the said lodes; but it is no improper suggestion, as matter of legitimate hope, that, ere the outlay of half the said capital be called for, the adventure may be marketable at a valuable premium.

This concern is divided into 1000 shares; the deposit, or first call, 5s. per share; the circumstances of progression will determine the time and amount of the next and future calls.—The plain and safe Cost-book System will be adopted, and the strictest regard to the appropriation of the capital to actual underground operations, will be economically adhered to by the managers.

Applications for shares are to be made to Mr. James Lane, sharebroker, 75, Old Broad-street, London: the Purser, Mr. F. Harvey, Hayle, Cornwall; or the London Secretary, Mr. W. Witcomb, Johnson's Chambers, 167, Fleet-street, London, of whom the prospectus may be obtained.—The prospectus can also be had at the office of the *Mining Journal*, 26, Fleet-street, London.

## UNITED KINGDOM ARTESIAN WATER COMPANY,

Capital £500,000, in 50,000 shares, of £10 each.—Deposit 7s. 6d. per share.

Provisionally Registered, pursuant to 7 and 8 Vic., cap. 110; and Notices, Specifications &c., for an Act of Incorporation, served on the Woods, Forests, and Land Revenues, *Pursuant to 9 and 10 Vic., cap. 106.*

PATRONS.

The Most Noble the Marquis of NORTHAMPTON, Belgrave-square.
The Right Hon. Lord ASHLEY, Upper Brook-street, Grosvenor-square.

TRUSTEES.

Lord CHARLES BEAUCLERC, Lowndes-street, Lowndes-square
WILLIAM ALEX. M'KINNON, Esq., M.P., Leamington, and Hyde-park-place.
BENJAMIN BOND CABBELL, Esq., M.P., St. Alban's, and Portland-place.
LUKE JAMES HANSARD, Esq., Southampton-street, Bloomsbury-square

MANAGING DIRECTORS.

JOHN BOND, Esq., M.D., M.R.C.S., L. and E., George-street, Portman-square.
Capt. EDWARD SMITH, R.N., 10, John-street, Adelphi.
G. BARRY, Esq., M.D., M.R.C.S., L., Charles-street, St. James's-square.
JOSHUA STOPFORD, Esq., East India Chambers, City.
CHARLES BLUNT, Esq., Montagu-place, Russell-square.
WILLIAM HENRY MAYNE, Esq., M.D., M.R.C.S., L., Howland-st., Fitzroy-square.
ELLIS PRICE SUTTON, Esq., Great Ormond-street.
(With power to add to their number.)

BANKERS.

London Joint-Stock Bank, Princes-street, Bank; Commercial Bank, Lothbury.

SECRETARY—Joshua Stopford.

ASSISTANT SECRETARY—William St. George Graham.

21, East India Chambers, Leadenhall-street.

PROSPECTUS.

When we look to the vast population, and consider the eminence, the trade, the enterprise, the great manufacturing and commercial interests of this metropolis, it becomes a matter of no little surprise that the most active means have not, long since, been taken to obtain a better supply of water, and to get rid of the mud and water monopoly which has so grievously existed for many years past.

The subject is one upon which so much has been said, and such universal complaints made, that it is altogether unnecessary to dilate upon the crying evil, or to offer a single remark beyond that which is rendered so self-evident to every disinterested and dispassionate mind.

Of the eight companies supplying London with water, the New River is the most extensive. It was constricted by Sir Hugh Myddleton, at an expense of about £150,000. When, in 1843, the public were much excited in consequence of the bad water supplied, a Parliamentary inquiry on the subject took place, and Commissioners were appointed. From the evidence then given, it appeared that the capital invested by the New River Company was £1,116,964, by the other companies £2,127,595, making a total of £3,224,559. Although the New River Company paid an enormous bonus (300 per cent. on the paid-up capital) yearly to the shareholders, there was a balance of £157,236 10s. 6d. remaining, which is more than the original cost of construction. The average number of houses supplied in 1834, according to the minutes of the evidence, was 196,492, at the annual value of £276,200, about £1 10s. yearly per house. Pure water can be supplied for one-third that sum, and leave a profit to the capitalist, who invests in this speculation, more enormous than that of the New River Company.

Hence the opportunity has presented itself for the formation of a company for the supply of pure water at an inconsiderable outlay, and upon those sure and unerring principles of artesian springs, which have been so generally adopted on the continent—unfailing and successfully established to the satisfaction of the most sceptical individuals.

So certain and conclusive have been the experiments tried, that the most successful result has attended every instance in procuring water upon the principle stated.

All applications for shares must be addressed to the secretary of the United Kingdom Artesian Water Company, at the offices, East India-chambers, Leadenhall-street, City London; and to the following brokers:—Messrs. Lamond, Smale, and Lamond, Threadneedle-street; J. T. Berkeley, Esq., 18, Threadneedle-street; W. H. Collis, Esq., Birmingham; Messrs. A. Moffat and Co., York-place, Edinburgh; A. Mercer, Esq., Perth; T. S. Fernyhough, Esq., Manchester; Messrs. Powell and Lownds, Liverpool; Messrs. Warburton and Crossland, Sheffield; T. S. Holland, Coventry; Messrs. Kirk and Co. Leeds; Messrs. Campbell, Dublin; Messrs. Tugg and Hodgson, Hull; P. Dixon, Esq., and Messrs. H. and W. A. Tassie, Glasgow.

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The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month.

A steamer from Southampton leaves the 1st and 20th of every month for Malta, whence are steamers to Naples, Genoa, Civeta Vecchia, three times a month.

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## BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY

RAILWAY.

SECOND CALL OF FIVE POUNDS PER SHARE—MAKING TEN POUNDS PAID.

The directors having passed a resolution, making a CALL upon the shareholders of FIVE POUNDS on each share held by them respectively—such call to be PAID on the 1st day of June, 1847; the shareholders are hereby required to pay such call on or before the day appointed, to one of the undermentioned bankers; and, in default thereof, hey will be charged with interest, at the rate of 5 per cent. per annum, from that day until the said call be actually paid:—

The Birmingham Banking Company, } Birmingham.
Messrs. Attwoods, Spooner, and Co. }

OR AT THEIR LONDON AGENTS:

Messrs. Jones Loyd and Co., for the Birmingham Banking Company.
Messrs. Spooner, Attwood, and Co., for Messrs. Attwoods and Co.; and at
Messrs. Moss and Co., Liverpool, for the Birmingham Banking Company.

A circular will be sent to each shareholder, which must be deposited at the bankers when the call is paid. By order of the board of directors,

JOHN WILLIAM KIRSHAW, Secretary.

34, Bennett's-hill, Birmingham, April 26, 1847.

## CALEDONIAN RAILWAY—LOANS ON DEBENTURES.

—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS of LOANS on DEBENTURES, in sums of not less than £500, for three or five years, bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.

Tenders to be addressed to this office.—Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order of the directors, D. RANKINE, Treasurer.

Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

## CAMBRIAN AND GRAND JUNCTION RAILWAY

COMPANY.—Notice is hereby given, that the committee of management of the above company have this day resolved, to authorise a FINAL RETURN to the shareholders of ONE SHILLING and THREEPENCE, in addition to the 2s. already repaid, and which further sum may be received on and after Monday, the 26th inst., at 8, Moorgate-street, London, where attendance for that purpose will be given, between the hours of Eleven and Four. By order,

April 22, 1847. JOSEPHUS FERRIS, Secretary.

## GLASGOW, PAISLEY, KILMARNOCK, AND AYR

RAILWAY COMPANY.—TENDERS FOR COKE.

The directors of this company wish to RECEIVE TENDERS for the SUPPLY OF COKE for their locomotive engines. The specification, &c., may be seen at the manager's office here.—Tenders must be lodged with the secretary before Twelve o'clock at noon of Wednesday, 26th of May current. By order of the directors,

J. FAIRFULL SMITH, Secretary.

Railway Office, 14, Bridge-street, Glasgow, May 1, 1847.

## LOUVAIN A LA SAMBRE RAILWAY—DIRECT TO

NAMUR AND CHARLEROY.

At the Second Annual General Meeting of the shareholders in the above line, held on Tuesday, the 11th of May, 1847, at the London Tavern, Bishopsgate-street,

JOHN BARNES, Esq. (President), in the chair,

The advertisements calling the meeting, and the report of the directors (to which is appended that of the engineer-in-chief), having been read by the secretary, the following resolutions were put from the chair, and agreed to:—

1. That the report of the directors, now read, be adopted by this meeting.
2. That all shares on which the last call of £2 per share has not been paid (with the exception of the 3820 shares originally allotted in Belgium), be declared to be forfeited.
3. That the proposed amalgamation with the Great Luxemburg Company, for jointly constructing and working the line from Brussels to Namur, be carried out by the directors.
4. That the augmentation of capital required by the ameliorated concession obtained by this company be raised in the mode proposed by the directors in their printed plan distributed to the shareholders.
5. That the time for election given to the shareholders who have paid £5 upon each share, to accept or refuse the new shares issued, to obtain the required augmentation of capital, be limited to one month after the publication in the *Moniteur Belge* of the *Arrete Royal* approving the proposed modification. After which, all such as shall not have been taken by them shall be disposed of in such manner as may be decided upon by the directors and a committee of shareholders to be for this purpose associated with them.
6. That the following gentlemen form the said committee of shareholders:—Mr. Morgan, Mr. Wilkinson, Mr. Fisher, Mr. Brown, and Mr. Abraham.
7. That the appointment of M. A. Goldsmid, Esq., as one of the directors of this company, be confirmed.

It was moved by Sir William Magnay, Bart.; seconded by Mr. Ashwell; and carried unanimously,

That the cordial thanks of the meeting be given to M. d'Hoffschmidt, for the important information which, during the day's proceedings, he has given to the shareholders, and also for the uniform and remarkable zeal which had on all occasions been shown by him for the advancement of the best interests of the company. J. BARNES, Chairman.

It was moved by Dr. Worthington; seconded by Mr. Fisher; and carried unanimously,

That the best thanks of this meeting be given to the chairman and directors for their constant exertions to promote the welfare of the company. G. DANCE, Secretary.

28, Threadneedle-street, May 12, 1847.

This day is published, in 1 thick vol., 8vo., price £1 8s., boards,

## THE LAW RELATING TO RAILWAYS AND RAILWAY

COMPANIES; with all the Cases relating to Compensation, Mandamus, Injunction, and other Matters, decided in the Courts of Law and Equity; including the Decisions as to the Liabilities of Promoters and Provisional Committee-men, and on the Rateability of Railways to the Poor's Rate. Also, the Practice in Parliament, Standing Orders, &c. The Appendix contains all the Statutes, Forms of Notices, Warrants, Inquisitions, Awards, &c.; with Precedents of Pleadings, Deeds, &c. &c.

By WILLIAM HODGES, Esq.,
Of the Inner Temple, Barrister-at-Law, Recorder of Poole.
S. Sweet, 1, Chancery-lane.

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cause of constitutional or acquired debility, loss of muscular energy, and derangement of the generative system, nervous debility, constitutional weakness, excessive indulgence, &c.; with Observations on Marriage, &c. By R. and L. PERRY and Co., surgeons, London. Published by the authors, and sold at their residence; also by Strange, 21, Paternoster-row; Hannay & Co., 63, Oxford-street; Noble, 109, Chancery-lane; Gordon 146, Leadenhall-street; Purkiss, Compton-street, Soho, London.

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